

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**PROJECT WORK PHASE-2 (18ECP83) REPORT**  
**ON**  
**“EYE AND VOICE CONTROLLED WHEELCHAIR”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION**

**Submitted by**

<b><u>NAME</u></b>	<b><u>USN</u></b>
Vikas S Benal	1MV20EC124
Niranjan Sridhar	1MV20EC126
R Shanmukha Srinivas	1MV20EC127
Vijay Y	1MV20EC128

**Under the Guidance of**

**Mrs. N Bhuvaneswari**  
Assistant Professor, Dept of ECE



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Hunasamaranahalli, Bengaluru-562157**

**2023-24**



# SRI KRISHNADEVARAYA EDUCATIONAL TRUST

## SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)

Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157

### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

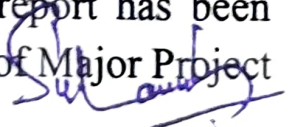
Certified that the Major-project work entitled **“EYE AND VOICE CONTROLLED WHEELCHAIR”** is carried out by **VIKAS BENAL(1MV20EC124), NIRANJAN SRIDHAR(1MV20EC126), R.SHANMUKHA SRINIVAS(1MV20EC127), VIJAY. Y(1MV20EC128)** the bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections and suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Major Project work prescribed for the said Degree.

  
**Mrs. N Bhuvaneshwari**

Asst Prof, Dept of ECE  
Sir MVIT Bangalore

  
**Dr. V.G Supriya**


Prof. & Head, Dept of ECE  
Sir MVIT Bangalore

  
**Prof. Rakesh S. G**  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli, Bengaluru-562 157

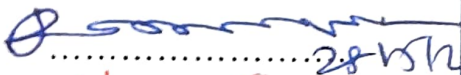
Principal  
Sir MVIT Bangalore

Name of the examiners

1.   
**Dr. R. Sundaragun**

2.   
**Lakshmi Manasa B**

Signature with date

  
**Principal**  
28/5/24

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**MAJOR PROJECT PHASE-I REPORT**  
**on**  
**“DIABETIC RETINOPATHY DETECTION”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME OF THE STUDENTS**

1. DEVIKA H A
2. DIDDUKURI JOSHNA
3. LIKITH C K
4. PADAPATI LIKHITH

**USN**

1MV20EC042  
1MV20EC044  
1MV20EC067  
1MV20EC068

**Under the Guidance of**  
**Mrs. Vijayalakshmi S**  
**Associate Professor**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Bengaluru-562157**  
**2023-24**



# SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

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Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157

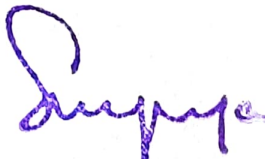
## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

Certified that the Phase 1 of Major-project work entitled **“DIABETIC RETINOPATHY DETECTION”** is carried out by **DEVIKA H A (1MV20EC042), DIDDUKURI JOSHNA (1MV20EC044), LIKITH C K (1MV20EC067), PADAPATI LIKHITH (1MV20EC068)** the bonafide students of **Sir M Visvesvaraya Institute of Technology** in partial fulfilment for the award of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University, Belgaum** during the year 2023-24. It is certified that all corrections and suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Phase 1 of Major-project work prescribed for the said Degree.

  
**Mrs. Vijayalakshmi S**  
Associate Prof, Dept of ECE  
Sir MVIT Bangalore

  
**Dr. V.G Supriya**  
Prof. & Head, Dept of ECE  
Sir MVIT Bangalore

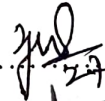
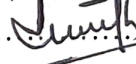
  
**Prof. Rakesh S. G**  
PRINCIPAL  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Off International Airport Road, Bengaluru-562 157

External Viva

Name of the examiners

1. Vijayalakshmi S
2. Dr. Vineeth Kumar P K

Signature with date

  
27/12/24  
  
27/12/24



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
JNANASANGAMA, BELAGAVI-590018**



**FINAL YEAR-PROJECT REPORT (18ECP83)**

**On**

**“Wrong Posture Monitoring System”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION**

**Submitted by**

**NAME**

<b>PRIYANSHU HARSHA</b>	<b>(1MV20EC090)</b>
<b>RISHABH SHARMA</b>	<b>(1MV20EC096)</b>
<b>SHRISTI RAJ</b>	<b>(1MV20EC108)</b>
<b>UJJWAL KUMAR</b>	<b>(1MV20EC120)</b>

**Under the Guidance of**

**Dr. SASMITA MOHAPATRA**

*Professor, Department of ECE*



**SIRM.VISVESVARAYAINSTITUTE OF TECHNOLOGY  
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
Bengaluru-562157**

**2023-24**

SRI KRISHNADEVARAYA EDUCATIONAL TRUST

## SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

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Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157

### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

Certified that the Final year project work entitled **“WRONG POSTURE MONITORING SYSTEM”** carried out by **Mr. PRIYANSHU HARSHA (1MV20EC090)**, **Mr. RISHABH SHARMA (1MV20EC096)**, **Ms. SHRISTI RAJ (1MV20EC108)**, **Mr. UJJWAL KUMAR (1MV20EC120)**, bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Dr. Sasmita Mohapatra  
Professor, Internal Guide  
Department of ECE

Dr. V.G. Supriya  
Professor and Head  
Department of ECE

PRINCIPAL  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bangalore-562 157  
Principal, Sir MVIT

Head of the Department  
Electronics & Communications Engineering,  
VIT Bangalore 562 157

External Viva

Name of the examiners

1. Vijaya Lakshmi S
2. Dr. Vineeth Kumar PK

Signature with date

27/5/24

28/5/24

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**PROJECT WORK PHASE-2(18ECP83) REPORT**  
**ON**  
**“IOT BASED COAL MINE SAFETY MONITORING AND**  
**ALERTING SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree of*

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION**

*Submitted by*

<b>Ankit Kumar</b>	<b>(1MV20EC016)</b>
<b>Arman Aryan</b>	<b>(1MV20EC024)</b>
<b>Harshit</b>	<b>(1MV20EC053)</b>
<b>Himanshu Sekhar Das</b>	<b>(1MV20EC055)</b>

*Under the guidance of*

**Dr. Sasmita Mohapatra**

*Professor,*

*Department of ECE*



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

Hunasamaranahalli, Bengaluru-562157

**2023-24**



# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY


BENGALURU-562157

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



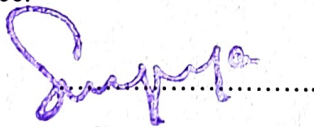
### CERTIFICATE

This is to certify that the project entitled “IOT based Coal Mine Safety Monitoring and Alerting System” is a bonafide work carried out by ANKIT KUMAR (1MV20EC016), ARMAN ARYAN (1MV20EC024), HARSHIT (1MV20EC053), HIMANSHU SEKHAR DAS (1MV20EC055) of Sir M. Visvesvaraya Institute of Technology, Bangalore, in partial fulfillment for the award of degree of Bachelor of Engineering in Electronics and Communication of the Visvesvaraya Technological University, Belagavi during the academic year 2023-2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report. The project report has been approved as it satisfies the academic requirements in respect of Major-project (18ECP83) prescribed for Bachelor of Engineering degree.

  
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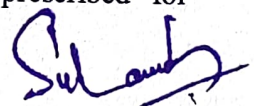
**Dr. SASMITA  
MOHAPATRA**

Professor  
Department of ECE

  
.....

**Dr. SUPRIYA V. G.**

Professor & Head  
Department of ECE  
**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. Visvesvaraya Institute of Technology**  
**Bangalore - 562 157**


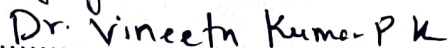
  
.....

**PRINCIPAL**


**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnakavaryanagar, Hunsur, Mysore - 562 157**  
**Internal Project Report Approved**  
**Dr. RAJESH S. G.**

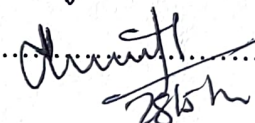
Principal  
Sir MVIT, Bengaluru

#### **Name of Examiners:**

1. ....  .....
2. ....  .....

#### **Signature with Date**

.....  28/5/24 .....

.....  28/5/24 .....

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**PHASE-II MAJOR PROJECT REPORT**  
**(18ECP83)**  
**on**  
**“BRAIN SENSE CONTROLLED ROBOT”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

<b><u>NAME</u></b>	<b><u>USN</u></b>
Geetha Priya C R	1MV20EC050
Keerthana A	1MV21EC405
Lakshmi B S	1MV21EC406
Manoj D P	1MV21EC407

**Under the Guidance of**  
**Ms.SHALINI P**  
**Associate Professor,**  
**Dept of ECE,Sir MVIT,**  
**Bengaluru-562157**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Bengaluru-562157**

**2023-24**

**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**

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Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

This is to certify that the project work entitled “Brain Sense Controlled Robot” carried out by Ms. Geetha Priya C R [1MV20EC050], Ms. Keerthana A [1MV21EC405], Ms. Lakshmi B S [1MV21EC406], Mr. Manoj D P [1MV21EC407], the bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Signature of the Guide

**SHALINI P**

Associate professor

Dept of ECE

Signature of HOD

**Dr.V.G. Supriya**

Professor & Head

Dept of ECE

Signature of Principal

**PRINCIPAL**

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Off International Airport Road, Bangalore-562 157  
**Prof.Rakesh S.G.**

Principal

Sir MVIT ,Bengaluru

**Head of the Department**  
Electronics & Communications Engineering  
Sir MVIT Bangalore 562 157

### External Viva

Name of the Examiners

1. **Dr. Supriya Vg**
2. **Lakshmi Manasa B**

Signature with Date

Signature of Examiner  
Date: 22/05/24



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**PHASE-II MAJOR PROJECT REPORT**  
**(18ECP83)**  
**on**  
**“BIRD REPELLENT SYSTEM USING MACHINE**  
**LEARNING”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

<u><b>NAME</b></u>	<u><b>USN</b></u>
Bhavya M	1MV21EC400
Gulam Gouse M	1MV21EC403
Shashikala R	1MV21EC408
Vishala S S	1MV21EC410

**Under the Guidance of**  
**Ms.SEEMA S**  
**Assistant Professor,**  
**Dept of ECE,Sir MVIT,**  
**Bengaluru-562157**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Bengaluru-562157**  
**2023-24**

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Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

This is to certify that the project work entitled “Bird Repellent System using Machine Learning” carried out by Ms.Bhavya M [1MV21EC400], Mr.GulamGouse M [1MV21EC403], Ms.Shashikala R [1MV21EC408], Ms.Vishala S S [1MV21EC410], the bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Signature of the Guide

**SEEMA S.**

Assistant professor

Dept of ECE

Signature of HOD

**Dr.V.G. Supriya**

Professor & Head

Dept of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
Internal Airport Road, Bengaluru - 562 157

**Prof.Rakesh S.G.**

Principal

Sir MVIT ,Bengaluru

**Head of the Department**

**Electronics & Communications Engineering**

**External Viva Sir M VIT Bangalore 562 157**

Name of the Examiners

Signature with Date

1. Vijayalakshmi S
2. Dr. Vineetha Kumar

2nd 28/5/24  
28/5/24

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**REPORT on**  
**MAJOR-PROJECT [18ECP83]**  
**“GARBAGE COLLECTION ROBOT”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

<b><u>NAME</u></b>	<b><u>USN</u></b>
Satyam	1MV20EC102
Shantanu Singh	1MV20EC105
Shweta Kumari	1MV20EC110
Yogesh Kumar	1MV20EC125

**Under the Guidance of**  
**Mr. Phanindar Ravi P.**  
Assistant Professor, Dept of ECE



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Bengaluru-562157**

**2023-24**



SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli Bangalore-562157


DEPARTMENT OF ELECTRONICS AND COMMUNICATION  
ENGINEERING

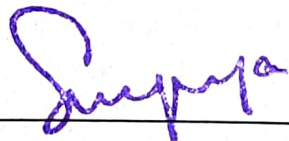



CERTIFICATE

Certified that the project work “**GARBAGE COLLECTION ROBOT**” is a bonafide work that is carried out by, SATYAM(1MV20EC102), SHANTANU SINGH(1MV20EC105), SHWETA KUMARI(1MV20EC110), YOGESH KUMAR(1MV20EC125) students of SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY in partial fulfillment of the requirements for the Degree of Bachelor of Engineering in Electronics and Communication Engineering as prescribed by Visvesvaraya Technological University, Belagavi for the academic year 2023-2024. It is certified that the all the correction and the suggestion indicated by the Internal assessment have been incorporated in the report deposited in the Departmental library.

The project report has been approved as it satisfies the academic requirements in respect of the project work prescribed for the course of Bachelor of Engineering.

  
Phanindar Ravi .P  
Internal Guide

  
Dr. Supriya .V. G  
Prof. & Head of Dept.

  
PRINCIPAL  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bangalore-562157  
Prof. Rakesh .S.G  
Principal

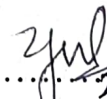

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

EXTERNAL VIVA

Name of Examiner

- 1... Vijayalakshmi .S
- 2... Dr. Vineeth Kumar P K

Signature with Date

  
..... 28/5/24  
  
..... 28/5/24

# VISVESVARAYA TECHNOLOGICAL UNIVERSITY

JNANA SANGAMA, BELAGAVI -590018



## PROJECT REPORT (18ECP83)

on

## “MULTI- LANGUAGE VOICE COMMAND ROBOTIC VEHICLE”

*Submitted in partial fulfilment of the requirements for the award of the degree.*

**BACHELOR OF ENGINEERING**

**IN**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

*Submitted by*

**ABHISHEK KUMAR**

**1MV20EC004**

**ADAN BARI**

**1MV20EC005**

**AKSHAT GUPTA**

**1MV20EC011**

*Under the Guidance of*

**Ms. PRAVEENA N**

Assistant Professor,  
Department of E&C



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**Bengaluru-562157**

**2023-24**

# Sir M Visvesvaraya Institute Of Technology

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)

Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

Certified that the Project work entitled “MULTI- LANGUAGE VOICE COMMAND ROBOTIC VEHICLE” carried out by ABHISHEK KUMAR (1MV20EC004), ADAN BARI (1MV20EC005), AKSHAT GUPTA (1MV20EC011), the bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The Project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

  
for **Ms. Praveena N**

Assistant Professor

Dept. Of E&C, Sir MVIT

  
**Dr. V.G. Supriya**

Professor and HOD

Dept. of E&C, Sir MVIT

Head of the Department

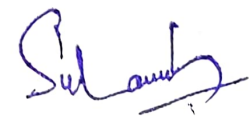
Electronics & Communications Engineering

Sir M VIT Bangalore 562 157

**External Viva**

Name of the examiners

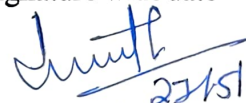
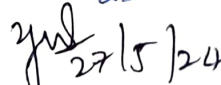
1. Dr. Vineeth Kumar P K
2. Vijayalakshmi. S

  
**PRINCIPAL**  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bangalore-562 157

Principal

Sir MVIT

Signature with date

  
27/5/2024  
  
27/5/24



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI -590018**



**PROJECT REPORT  
on**

**“REAL TIME TRAFFIC ANALYSIS AND STREET LIGHT  
MANAGEMENT SYSTEM”**

**Submitted in partial fulfillment of the requirements for the award of the degree  
BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION**

**Submitted by**

**ADARSH SINGH  
ADITYA ANAND  
AJITESH PRAKASH  
DEV PRAKASH**

**1MV20EC006  
1MV20EC007  
1MV20EC010  
1MV20EC041**

**Under the Guidance of**

**Mr. Nataraja R.**

**Associate Professor, Department of ECE**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**Bengaluru-562157**

**2023-24**

**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**  
**SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY**

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)  
Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

Certified that the project work entitled “**Real-Time Traffic Analysis and Street Light Management System**” carried out by **Mr. Adarsh Singh (USN-1MV20EC006)**, **Mr. Aditya Anand (USN-1MV20EC007)**, **Mr. Ajitesh Prakash (USN-1MV20EC010)** and **Mr. Dev Prakash (USN-1MV20EC041)** a bonafide student of **Sir M. Visvesvaraya Institute of Technology** in partial fulfillment for the award of Bachelor of Engineering / Bachelor of Technology in **Electronics and Communication Engineering** of the Visveswaraiiah Technological University, Belgaum during the year 2023-24 It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Mr. NATARAJA R.

Associate Professor

Dept. of ECE

External Viva

Name of the examiners

- 1) Vijayalakshmi. S
- 2) Dr. Vineeth Kumar P K

Dr. V. G. SUPRIYA

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bangalore-562 157

SIR MVIT

Signature with date

Signature with date  
27/5/24

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**MAJOR PROJECT PHASE-I REPORT**  
**on**  
**“DIABETIC RETINOPATHY DETECTION”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME OF THE STUDENTS**

1. DEVIKA H A
2. DIDDUKURI JOSHNA
3. LIKITH C K
4. PADAPATI LIKHITH

**USN**

1MV20EC042  
1MV20EC044  
1MV20EC067  
1MV20EC068

**Under the Guidance of**  
**Mrs. Vijayalakshmi S**  
**Associate Professor**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Bengaluru-562157**  
**2023-24**



# SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)


Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157


## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING




### CERTIFICATE

Certified that the Phase 1 of Major-project work entitled “**DIABETIC RETINOPATHY DETECTION**” is carried out by **DEVIKA H A (1MV20EC042), DIDDUKURI JOSHNA (1MV20EC044), LIKITH C K (1MV20EC067), PADAPATI LIKHITH (1MV20EC068)** the bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University, Belgaum** during the year 2023-24. It is certified that all corrections and suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Phase 1 of Major-project work prescribed for the said Degree.

  
**Mrs. Vijayalakshmi S**  
Associate Prof, Dept of ECE  
Sir MVIT Bangalore

  
**Dr. V.G Supriya**  
Prof. & Head, Dept of ECE  
Sir MVIT Bangalore

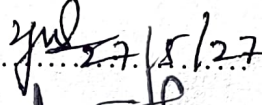

  
**PRINCIPAL**  
**Prof. Rakesh S**  
Sir M. Visvesvaraya Institute of Technology  
Krishnadevarayanagar, Off International Airport Road, Bengaluru-562 157

External Viva

Name of the examiners

1. Vijayalakshmi S
2. Dr. Vineetha Kumar PK

Signature with date

  
27/5/27  
  
27/5/27

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**PROJECT WORK PHASE-2 (18ECP83) REPORT**  
**ON**  
**“SMART SHOE”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

<b>ANUBHAB SARKAR</b>	<b>1MV20EC017</b>
<b>APOORV KUMAR</b>	<b>1MV20EC022</b>
<b>MIHIR KUMAR SHARMA</b>	<b>1MV20EC075</b>
<b>SIDDHARTHA KUMAR</b>	<b>1MV20EC112</b>

**Under the Guidance of**

**DR. R SUNDARAGURU, Ms. VIJAYALAKSHMI S**

<i>Professor,</i>	<i>Associate Professor,</i>
<i>Department of ECE</i>	<i>Department of ECE</i>



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**Krishnadevarayanagar, Hunasamaranahalli, Bengaluru-562157**

**2023-2024**



# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY


(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)  
Krishnadevarayanagar, Off International Airport Road, Bengaluru – 562157


## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

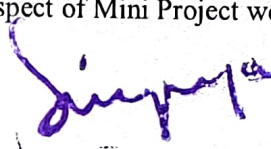


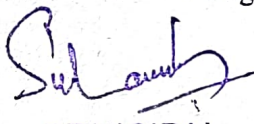
### CERTIFICATE

Certified that the Major Project Phase-2 (18ECP83) work entitled “SMART SHOE” carried out by Mr. ANUBHAB SARKAR (1MV20EC017), Mr. APOORV KUMAR (1MV20EC022), Mr. MIHIR KUMAR SHARMA (1MV20EC075), Mr. SIDDHARTHA KUMAR (1MV20EC112), bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the said Degree.

  
**Dr. R SUNDARAGURU**  
(Guide)  
Professor  
Dept. of ECE

  
**Ms. VIJAYALAKSHMI S**  
(Co-guide)  
Associate Professor  
Dept. of ECE

  
**Dr. V.G SUPRIYA**  
Professor & Head  
Dept. of ECE

  
**PRINCIPAL**  
**Prof. RAKESH S.G.**  
Principal  
SIR MVIT  
Bengaluru - 562157

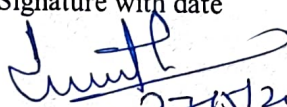
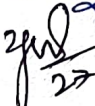
**Head of the Department**  
**Electronics & Communications Engineering**  
**SIR MVIT**  
**Bangalore 562157**

External Viva

Name of the examiners

1. Dr. Vineeth Kumar P.K
2. Vijayalakshmi S

Signature with date

  
27/11/2022  
  
27/11/24



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
JNANA SANGAMA, BELAGAVI -590018**



**MAJOR PROJECT PHASE-II REPORT (18ECP83)  
on  
“VEHICLE SAFETY AND SECURITY SYSTEM”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

- |                       |            |
|-----------------------|------------|
| 1. KISHOR KUMAR HEGGE | 1MV20EC062 |
| 2. MOHITH G.S.        | 1MV20EC077 |
| 3. MONISH M.          | 1MV20EC080 |
| 4. NACHIKETH K.V.     | 1MV20EC081 |

**Under the Guidance of**

**Mrs. SEEMA S.  
Assistant Professor, Dept of ECE**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
Bengaluru-562157  
2023-2024**

# SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

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Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

Certified that the Phase II of Major-project work entitled **“VEHICLE SAFETY AND SECURITY SYSTEM”** is carried out by **KISHOR KUMAR HEGGE (1MV20EC062), MOHITH G S (1MV20EC077), MONISH M (1MV20EC080), NACHIKETH K V (1MV20EC081)** the bonafide students of **Sir M Visvesvaraya Institute of Technology** in partial fulfilment for the award of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University**, Belgaum during the year 2023-24. It is certified that all corrections and suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Phase 2 of Major-project work prescribed for the said degree.

.....  
Seema

**Mrs. Seema S.**  
Asst. Prof, Dept. of ECE  
Sir MVIT, Bengaluru

.....  
Supriya

**Dr. V.G. Supriya**  
Professor & HOD  
Dept. of ECE  
Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

.....  
Sulambh

**PRINCIPAL**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunasamaranahalli  
Off International Airport Road, Bangalore-562 157  
Principal  
Sir MVIT, Bengaluru

External Viva

Name of the examiners

1. Dr. R. Sundararam
2. Lakshmi Manasa B

Signature with date

.....  
Manasa  
28/5/24

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANASANGAMA, BELAGAVI-590 018**



**PROJECT WORK PHASE 2(18ECP83) REPORT  
ON**

**“AUTOMATIC MEDICINE DISPATCHER WITH DYNAMIC TELEMONITORING SYSTEM  
USING IOT IN RURAL AREAS”**

*Submitted in partial fulfilment of the requirements for the award of the degree of*

**BACHELOR OF ENGINEERING**

**IN**

**ELECTRONICS & COMMUNICATION ENGINEERING**

***Submitted by***  
**V SUCHITHRA** **1MV20EC121**

***Under the Guidance of***  
**Dr.POONGOTHAL.C**

Associate Professor,  
Department of ECE



**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

(Approved by AICTE New Delhi, Affiliated to VTU, Belagavi, ISO 9001:2008 Certified)

**Hunasamaranahalli, Bengaluru – 562157**

**2023 – 2024**



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(Approved by AICTE New Delhi, Affiliated to VTU, Belagavi, ISO 9001:2008 Certified)

BENGALURU – 562157

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



## CERTIFICATE

It is certified that the Project work entitled "AUTOMATIC MEDICINE DISPATCHER WITH DYNAMIC TELEMONITORING SYSTEM USING IOT IN RURAL AREAS" carried out by V SUCHITHRA (1MV20EC121) a bonafide students of Sir M Visvesvaraya Institute of Technology, Bengaluru in partial fulfilment for the requirements for the award of the degree of Bachelor of Engineering in Electronics & Communication Engineering of the Visvesvaraya Technological University, Belagavi during the year 2023-2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the department library. The Project work report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the degree of Bachelor of Engineering.

Signature of Guide  
Dr. Poogothai .C  
Associate Professor  
Dept. of ECE

Signature of HOD  
Dr. V.G. Supriya  
Dept. of ECE

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

PRINCIPAL  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishna Nagar, Hosur Road, Maranahalli  
International Airport Road, Bangalore-562 157  
Signature of Principal  
Prof. Rakesh S.G.  
SIR MVIT

## EXTERNAL VIVA

Name of Examiners

1. Dr. R. Sundarajan
2. Lakshmi Manasa B

Signature with Date

  
28/5/24  
  
28/5/24

# VISVESVARAYA TECHNOLOGICAL UNIVERSITY

JNANASANGAMA, BELAGAVI-590 018



## PROJECT WORK PHASE 2(18ECP83) REPORT ON

**“FRUIT FRESHNESS AND SPOILAGE DETECTION SYSTEM USING CNN”**

*Submitted in partial fulfilment of the requirements for the award of the degree of*

**BACHELOR OF ENGINEERING**

**IN**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by*

KRISHNA UPADHYAY	1MV20EC063
LAKSHMI S	1MV20EC065
MONIKA P	1MV20EC078
TEJASWINI K	1MV21EC409

*Under the Guidance of*

**Dr.POONGOTHAL.C**

Associate Professor,  
Department of ECE



**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

(Approved by AICTE New Delhi, Affiliated to VTU, Belagavi, ISO 9001:2008 Certified)

Hunasamaranahalli, Bengaluru – 562157

**2023 – 2024**



# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Approved by AICTE New Delhi, Affiliated to VTU, Belagavi, ISO 9001:2008 Certified)

BENGALURU – 562157

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



## CERTIFICATE

It is certified that the Project work entitled "FRUIT FRESHNESS AND SPOILAGE DETECTION USING CNN" carried out by KRISHNA UPADHYAY (1MV20EC063), LAKSHMI S (1MV20EC065), MONIKA P (1MV20EC078), TEJASWINI K (1MV21EC409), a bonafide students of Sir M Visvesvaraya Institute of Technology, Bengaluru in partial fulfilment for the requirements for the award of the degree of Bachelor of Engineering in Electronics & Communication Engineering of the Visvesvaraya Technological University, Belagavi during the year 2023-2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the department library. The Project work report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the degree of Bachelor of Engineering.

Signature of Guide

Dr. Poogothai .C

Associate Professor

Dept. of ECE

Signature of HOD

Dr. V.G. Supriya

Dept. of ECE

Head of the Department

Electronics & Communications Engineering

Sir M VIT Bangalore 562 157

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadasaravannagar, H. P. Halli

International Airport Road, Bangalore - 562 157

Signature of Principal

Prof. Rakesh S G

SIR MVIT

## EXTERNAL VIVA

Name of Examiners

1. Vijayalakshmi S
2. Dr. Vineeth Kumar P K

Signature with Date



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**PHASE-II MAJOR PROJECT REPORT**  
**(18ECP83)**  
**on**  
**“BRAIN SENSE CONTROLLED ROBOT”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

<b><u>NAME</u></b>	<b><u>USN</u></b>
Geetha Priya C R	1MV20EC050
Keerthana A	1MV21EC405
Lakshmi B S	1MV21EC406
Manoj D P	1MV21EC407

**Under the Guidance of**  
**Ms. SHALINI P**  
**Associate Professor,**  
**Dept of ECE, Sir MVIT,**  
**Bengaluru-562157**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Bengaluru-562157**

**2023-24**

**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**

# SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

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Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

This is to certify that the project work entitled “Brain Sense Controlled Robot” carried out by Ms. Geetha Priya C R [1MV20EC050], Ms. Keerthana A [1MV21EC405], Ms. Lakshmi B S [1MV21EC406], Mr. Manoj D P [1MV21EC407], the bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

  
Signature of the Guide

**SHALINI P**

Associate professor

Dept of ECE



Signature of HOD

**Dr.V.G. Supriya**

Professor & Head

Dept of ECE

**Head of the Department**

Electronics & Communications Engineering

Sir M VIT Bangalore 562 157



PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bangalore-562 157

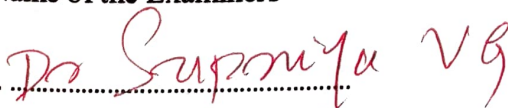

**Prof. Rakesh S.G.**

Principal

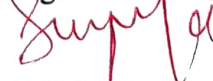
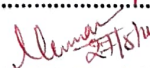
Sir MVIT ,Bengaluru

### External Viva

Name of the Examiners

1.  **Dr. Supriya VG**
2.  **Lakshmi Manasa B**

Signature with Date

 **27/05/24**  
 **27/05/24**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANASANGAMA, BELAGAVI – 590018**



**MAJOR-PROJECT REPORT  
ON**

**“DETERRENCE OF PIRACY EMPLOYING IR TRANSMITTER AND  
STEGANOGRAPHY SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING (18ECP83)  
IN  
ELECTRONICS AND COMMUNICATION**

**Submitted by**

<b><u>NAME</u></b>	<b><u>USN</u></b>
C A SRAVAN VARMA	1MV20EC037
C M RAGHAVA RAKSHITH	1MV20EC038
NINGANAGOUDA G T	1MV20EC083

**Under the guidance of**

**Mrs. Shalini P**

Associate professor

Department of ECE



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**BENGALURU-562157**

**2023-2024**



# SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)  
Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru –  
562 157

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

Certified that the Major-project work entitled '**DETERRENCE OF PIRACY EMPLOYING IR TRANSMITTER AND STEGANOGRAPHY SYSYTEM**' carried out by **C A SRAVAN VARMA(1MV20EC037), C M RAGHAV RAKSHITH(1MV20EC038), NINGANAGOUDA G T(1MV20EC083)** the bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements with respect to Major Project work prescribed for the degree.

Signature of the Guide

Mrs. Shalini P

Associate Professor

Dept of ECE

Signature of the HOD

Dr. V. G. Supriya

Professor and Head,

Dept of ECE

Signature of the Principal

Principal  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli,  
Bengaluru-562 157

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir MVIT, Bengaluru - 562 157

### External Examination:

Name Of Examiners:

- 1). Dr. Supriya V G
- 2). Lakshmi Manasa D

Signature With Date:

Signature: [Signature]  
Date: 27/05/24

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
JNANA SANGAMA, BELAGAVI -590018**



**PROJECT REPORT  
On**

**“CHILD SAFETY WEARABLE DEVICE”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION**

**Submitted by**

**ANANYA SINGH  
HIMANSHU SHEKHAR  
HITHA S  
MANSI PRIYA**

**1MV20EC013  
1MV20EC056  
1MV20EC057  
1MV20EC074**

**Under the Guidance of**

**Ms. SHILPA CHIPPALAKATTI  
ASSISTANT PROFESSOR**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**Bengaluru-562157**

**2023-24**



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

**SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY**


(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)  
Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

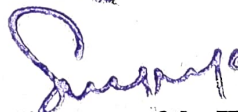


**CERTIFICATE**

Certified that the Project work entitled “CHILD SAFETY WEARABLE DEVICE” carried out by Ms. ANANYA SINGH(1MV20EC013), Mr. HIMANSHU SHEKHAR (1MV20EC056), Ms. HITHA S(1MV20EC057), Ms. MANSI PRIYA(1MV20EC074), the bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Major Project work prescribed for the said Degree.

 27/5/24

**Signature of the Guide**  
Ms. Shilpa Chippalakatti  
Assistant Professor  
Department of ECE  
Sir MVIT, Bengaluru



**Signature of the HOD**  
Dr. V. G. Supriya  
Professor and Head  
Department of ECE  
Sir MVIT, Bengaluru



**PRINCIPAL**  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bengaluru - 562157

**Signature of the Principal**  
Prof. Rakesh S.G.  
Sir MVIT, Bengaluru

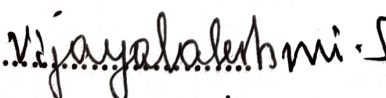
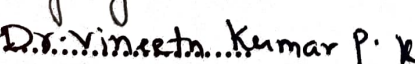
**Head of the Department**

**Electronics & Communications Engineering**

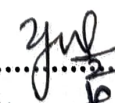
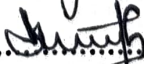
Sir MVIT

**External Examiners:**

**Name of the Examiners**

- 1...  S
- 2...  K

**Signature with Date**

- 1...  27/5/24
- 2...  27/5/2024



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**FINAL YEAR PROJECT REPORT (18ECP83)**  
**ON**  
**“GEO LOCATION GUIDE USING RF”**

*Submitted in partial fulfillment of the requirements for the award of the degree*  
**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

*Submitted by*

<b>PRANAV RAJ</b>	<b>1MV20EC089</b>
<b>RAGHVENDRA KUMAR</b>	<b>1MV20EC092</b>
<b>RITIK KUMAR DUBEY</b>	<b>1MV20EC098</b>
<b>TUSHAR YADAV</b>	<b>1MV20EC119</b>

*Under the Guidance of*

**MRS. SANTHOSHINI S**

*Assistant Professor,*

*Department of ECE*



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**Krishnadevarayanagar, Hunasamaranahalli, Bengaluru-562157**

**2023-2024**

# SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)

Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru - 562157

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

Certified that the project work entitled "GEO LOCATION GUIDE USING RF" carried out by Mr. PRANAV RAJ (1MV20EC089), Mr. RAGHVENDRA KUMAR (1MV20EC092), Mr. RITIK KUMAR DUBEY (1MV20EC098), Mr. TUSHAR YADAV (1MV20EC119), bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Mrs. Santhoshini S  
(Guide)

Assistant professor

Dept. of ECE

Dr. V G Supriya

Professor and Head

Dept. of ECE

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

External Viva

Name of the examiners

1. Dr. Supriya V G
2. Lakshmi Manasa B

PRINCIPAL  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bangalore-562 157  
Dr. Rakesh S G

Principal

SIR MVIT

Signature with date

Supriya V G 27/05/24  
Manasa B 27/5/24

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
JNANA SANGAMA, BELAGAVI -590018**



**PROJECT WORK PHASE 2 (18ECP83) REPORT  
ON**

**“ARTIFICIAL SOLAR TREE”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

Gali Shashidhar  
Girishreddy B  
Likitha P  
Shwetha

1MV20EC049  
1MV20EC051  
1MV20EC069  
1MV20EC111

**Under the Guidance  
of**

**Mrs. GEETHA.V**

Assistant

Professor,

Department of ECE-SIR.MVIT



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
Bengaluru-562157  
2023-24**



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NAAC)  
Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli,  
Bengaluru – 562 157

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION  
ENGINEERING**



**CERTIFICATE**

Certified that the project work entitled “ARTIFICIAL SOLAR TREE” carried out by Gali Shashidhar (1MV20EC049), Girishreddy B (1MV20EC051), Likitha P (1MV20EC069), Shwetha (1MV20EC111), bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the degree of Bachelor of Engineering.

**Mrs. GEETHA .V**

(Guide) Assistant Professor,  
Dept of ECE

**Dr. V.G SUPRIYA**

Professor and Head,  
Dept of ECE

**PRINCIPAL**

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli,  
International Airport Road, Bangalore-562 157  
**Prof. RAKESH S.G.**

Principal

Sir MVIT Bengaluru

**Name of the Examiners:**

1. Dr. R. Sundaragum
2. Lakshmi Manasa B

**Signature with date**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**PROJECT WORK PHASE-2 (18ECP83) REPORT**  
**ON**  
**“EYE AND VOICE CONTROLLED WHEELCHAIR”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION**

**Submitted by**

<b><u>NAME</u></b>	<b><u>USN</u></b>
Vikas S Benal	1MV20EC124
Niranjan Sridhar	1MV20EC126
R Shanmukha Srinivas	1MV20EC127
Vijay Y	1MV20EC128

**Under the Guidance of**

**Mrs. N Bhuvaneswari**  
Assistant Professor, Dept of ECE



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Hunasamaranahalli, Bengaluru-562157**

**2023-24**



# SRI KRISHNADEVARAYA EDUCATIONAL TRUST

## SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)


Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157


### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

Certified that the Major-project work entitled “**EYE AND VOICE CONTROLLED WHEELCHAIR**” is carried out by **VIKAS BENAL(1MV20EC124), NIRANJAN SRIDHAR(1MV20EC126), R.SHANMUKHA SRINIVAS(1MV20EC127), VIJAY. Y(1MV20EC128)** the bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections and suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Major Project work prescribed for the said Degree.



  
**Mrs. N Bhuvaneswari**  
Asst Prof, Dept of ECE  
Sir MVIT Bangalore


  
**Dr. V.G Supriya**  
Prof. & Head, Dept of ECE  
Sir MVIT Bangalore

  
**Prof. Rakesh S. G**  
Principal  
Sir MVIT Bangalore

Name of the examiners **Head of the Department**  
**Electronics & Communications Engineering**  
Sir MVIT Bangalore

Signature with date

1.   
**Dr. R. Sundaraguru**
2.   
**Lakshmi Manasa B**

  
**Prof. Rakesh S. G**  
28/4/24



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
JNANA SANGAMA, BELAGAVI -590018**



**MAJOR PROJECT PHASE-II REPORT  
on  
“STROKE PREDICTION SYSTEM USING ML & IOT”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME OF THE STUDENTS**

**USN**

1. MONISH GOWDA NS
2. NAVNEET KRISHNA
3. ROHITH G
4. SHEIK TANZEEM

1MV20EC079  
1MV20EC082  
1MV20EC101  
1MV20EC106

**Under the Guidance of  
Mrs.N BHUVANESHWARI  
ASSISTANT PROFESSOR**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
Bengaluru-562157  
2023-24**

# SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY


(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)  
Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157


## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING




### CERTIFICATE

Certified that the Major Project work entitled “**STROKE PREDICTION SYSTEM USING ML & IOT**” is carried out by **MONISH GOWDA NS (1MV20EC079)**, **NAVNEET KRISHNA (1MV20EC082)**, **ROHITH G (1MV20EC101)**, **SHEIK TANZEEM (1MV20EC106)** the bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections and suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Phase 2 of Major-project work prescribed for the said Degree.

  
**Mrs. N BHUVANESWARI**  
Asst Prof, Dept of ECE  
Sir MVIT Bangalore

  
**Dr. V.G Supriya**  
Prof. & Head, Dept of ECE  
Sir MVIT Bangalore


  
**Prof. Rakesh S. G**  
Principal  
Sir MVIT Bangalore

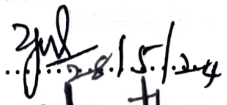

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bengaluru-562 157

External Viva

**Head of the Department**  
**Electronics & Communications Engineering**

Name of the examiners Sir M VIT Bangalore 562 157 Signature with date

1.  Vijayalakshmi S
2. Dr. Vineeth Kumar PK

 28/5/24  
 28/5/24

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELGAUM – 590018**



**PROJECT WORK PHASE - 2 REPORT (18ECP78)  
ON**

**“IOT BASED HYDROPONICS SYSTEM USING DEEP  
NEURAL NETWORKS”**

*Submitted in partial fulfillment of the requirements for the award of the degree of*

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION ENGINEERING**

*Submitted by*

**DARSHAN RAMADAS BAHNDARI  
DEEPTHI  
HARSHA D GANGOLLI**

**1MV20EC039  
1MV20EC040  
1MV20EC052**

*Under the guidance of*

**Mrs. Krishnapriya S Sharma.**

**Associate Professor, Department of ECE**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**Krishnadevarayanagar, Hunasamaranahalli**

**Bengaluru -562157**

**2023-2024**



# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BENGALURU-562157

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

Certified that the Major-project work entitled “ IOT BASED HYDROPONICS SYSTEM USING DEEP NEURAL NETWORKS ” carried out by **Darshan Ramdas Bhandari (1MV20EC039), Deepthi (1MV20EC040), Harsha D Gangolli (1MV20EC052)** the Bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in **Electronics and Communication Engineering** of the Visvesvaraya Technological University, Belgaum during the year **2023-24**. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Major Project work prescribed for the said Degree.

**Mrs. Krishnapriya S Sharma**  
Associate Professor / Internal Guide  
Department of ECE

**Dr. V.G Supriya**  
Professor and Head  
Department of ECE

**Prof. Rakesh S. G**  
Principal  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya Nagar, Mysamaraiahalli  
International Airport Road, Bangalore-562 157

**Head of the Department**  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

### External Viva

#### Name of the examiners

1. **Dr R. Sundararaman**
2. **Lakshmi Manasa B**

#### Signature with date

  
**28/5/24**  
  
**28/5/24**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI - 590018**



**PROJECT WORK PHASE-2 (18ECP83) REPORT**  
**ON**  
**“PLANT DISEASE DETECTION USING RASPBERRY PI”**

*Submitted in partial fulfillment of the requirements for the award of the degree of*

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION**

**Submitted by**

<b>AASTHA</b>	<b>(1MV20EC001)</b>
<b>AMYA VERMA</b>	<b>(1MV20EC012)</b>
<b>ANISHA KUMARI</b>	<b>(1MV20EC014)</b>
<b>ARUSHI GUPTA</b>	<b>(1MV20EC025)</b>

**Under the Guidance of**

**Mrs. Krishnapriya S. Sharma**

*Associate Professor ,*

*Department of ECE*



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**Krishnadevarayanagar, Hunasamaranahalli**  
**Bengaluru-562157**

**2023-24**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that the Major-project work entitled “**PLANT DISEASE DETECTION USING RASPBERRY PI**” carried out by **Aastha(1MV20EC001), Amya Verma (1MV20EC012), Anisha Kumari (1MV20EC014), Arushi Gupta (1MV20EC025)** the Bonafide students of **Sir M Visvesvaraya Institute of Technology** in partial fulfillment for the award of Bachelor of Engineering in **Electronics and Communication Engineering** of the **Visvesvaraya Technological University, Belgaum** during the year **2023-24**. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project Work Phase-2 (18ECP83) prescribed for the said Degree.

**Mrs. Krishnapriya S. Sharma**  
Associate Professor, Internal Guide  
Department of ECE

**Dr. V.G Supriya**  
Professor and Head  
Department of ECE

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevaraya Nagar, Hunsar, Hunsarhalli  
International Airport Road, Bangalore-562 157

**Head of the Department**  
**Electronics & Communications Engineering**  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BANGALURU - 562 157

**External Viva**

**Name of the examiners**

- 1.
2. **Dr. Vineeth Kumar P k**

**Signature with date**

27/5/24  
 27/5/24



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**PROJECT REPORT (18ECP83)**

**On**

**“HONEY POT”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**

**IN**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME**

**USN**

**Anjan Kumar M L**  
**Anurag Rajendra Naik**  
**Aryan Singh**  
**Kartik Nandagaon**

**1MV20EC015**  
**1MV20EC019**  
**1MV20EC027**  
**1MV20EC060**

**(Under the Guidance of)**  
**Dr. Poongothai C**  
**Associate Professor**  
**Dept. of ECE**





**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**  
**SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY**

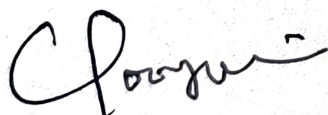
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Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru – 562 157

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

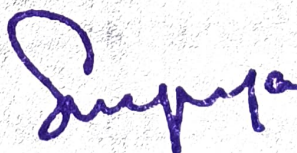
This is to Certify that the project work entitled “**Honey Pot**” carried out by **ANJAN KUMAR ML (1MV20EC015), ANURAG RAJENDRA NAIK (1MV20EC019), ARYAN SINGH (1MV20EC027), KARTIK NANDAGAON (1MV20EC060)** the bona-fide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.



Dr. Poongothai C

Associate Professor

Department of ECE



Dr. V. G. Supriya

Professor and Head

Department of ECE.



**Head of the Department**

Electronics & Communications Engineering

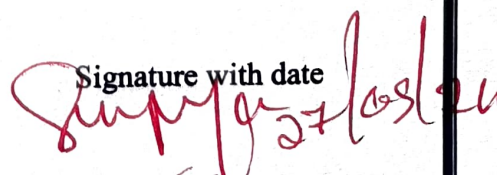
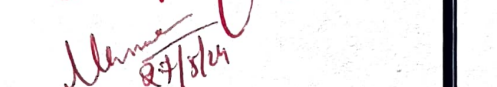
Sir M VIT Bangalore 562 157

External Viva

Name of the examiners

1. 
2. 

Signature with date

  
  
24/5/24

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**PHASE-II MAJOR PROJECT REPORT**  
**(18ECP83)**  
**on**  
**“BIRD REPELLENT SYSTEM USING MACHINE**  
**LEARNING”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME**

**USN**

Bhavya M

1MV21EC400

Gulam Gouse M

1MV21EC403

Shashikala R

1MV21EC408

Vishala S S

1MV21EC410

**Under the Guidance of**

**Ms.SEEMA S**

**Assistant Professor,**

**Dept of ECE,Sir MVIT,**

**Bengaluru-562157**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Bengaluru-562157**  
**2023-24**



# SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)  
Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru - 562 157

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

This is to certify that the project work entitled “Bird Repellent System using Machine Learning” carried out by Ms.Bhavya M [1MV21EC400], Mr.GulamGouse M [1MV21EC403], Ms.Shashikala R [1MV21EC408], Ms.Vishala S S [1MV21EC410], the bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfilment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

*Seema*

Signature of the Guide

**SEEMA S.**

Assistant professor

Dept of ECE

*Supriya*

Signature of HOD

**Dr.V.G. Supriya**

Professor & Head

Dept of ECE

*Sul*

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
Bengaluru - 562 157

Signature of Principal

**Prof.Rakesh S.G.**

Principal

Sir MVIT ,Bengaluru

**Head of the Department**

**Electronics & Communications Engineering**

**Sir M VIT Bangalore 562 157**

External Viva

Name of the Examiners

1. *Vijayalakshmi*
2. *Dr. Vineeta Kumar PK*

Signature with Date

*28/5/24*  
*28/5/24*

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING  
in  
ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**AASTHA**

**1MV20EC001**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001

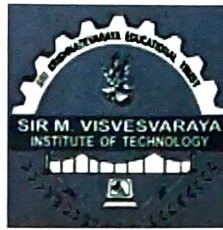
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **AASTHA (1MV20EC001)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.



Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

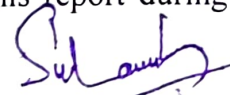


Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE



PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya Nagar, Hunsur, Mysore  
International Airport Road, Bangalore-562 157  
Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BANGALORE - 562 157

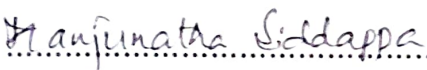
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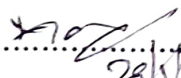
Name of the Examiners

Signature with Date

1. 

 29/5/24

2. 

 29/5/24






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## Certificate of Internship

This is to certify that **Aastha** whose USN is **1MV20EC001**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time. To verify this certificate, [click here](#) 



213,2

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“Stock Sentimental Analysis”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**AAYUSH SINHA**

**1MV20EC002**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**

**Halasuru, M.G Road**

**BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sasmita Mohapatra**

**Professor,**

**Dept. of ECE, Sir MVIT**

**Bengaluru-562157**

**External Guide:**

**Tejas N.**

**Director,**

**Varcons Technologies Pvt Ltd,**

**Bengaluru-560001**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **AAYUSH SINHA (1MV20EC002)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

PRINCIPAL

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevaraya Nagar, H.N. Somaswamy Halli  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaregum**.....

29/5/24

2. **K. Anjanatha Siddappa**.....

29/5/24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Aayush Sinha** whose USN is **1MV20EC002**, has completed their **Machine Learning With Python (Research Based)** Internship organised and handled by **Varcons Technologies Pvt. Ltd** from **13<sup>th</sup> August, 2023 to 20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Stockport — Predictive Sentiment Analysis**, As part of the project, They designed the Machine Learning Model, Demonstrated and tested the working of the Model, Prepared a report highlighting its flaws by understanding the design briefs and client Specifications that were provided in the Proposal.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERSHIP REPORT**  
**ON**  
**“ADVANCE EMBEDDED AND IoT INTERNSHIP”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ABHISHEK**

**1MV20EC003**

*Internship carried out at*  
**SIR MVIT COLLEGE,**  
**BENGALURU-562157**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Mr. Kotresh M**  
Director,  
Indian TechKeys  
Bengaluru- 560038

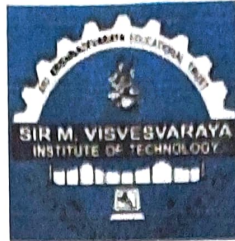


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**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
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**BENGALURU-562157**  
**2023-2024**

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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



## CERTIFICATE

This is to certify that **ABHISHEK (1MV20EC0003)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**  
**External Viva**

PRINCIPAL

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunsur, Mysore Road, Bengaluru-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1. Dr. R. Sundaraguru

  
29/5/24

2. Manjunatha Siddappa

  
24/5/24



# DECLARATION

I **ABHISHEK**, student of **VIII semester Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

ABHISHEK

Date:

1MV20EC003

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY JNANA**  
**SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“SMART PARKING SYSTEM USING ARDUINO”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ABHISHEK KUMAR**

**1MV20EC004**

*Internship carried out at*

**VARCONS TECHNOLOGIES**  
**213,2<sup>nd</sup> FLOOR, 18 M G ROAD, ULSOOR**  
**BENGALURU-560001**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Spoorthi H.C**  
Director,  
Varcons Technologies  
Bengaluru-560001



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**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **ABHISHEK KUMAR(1MV20EC004)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **VARCONS TECHNOLOGIES** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**  
**External Viva**

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**International Airport Road, Bangalore-562 157**

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1. **Dr. R. Sundararam**.....

29/12/24

2. **Manjunatha Siddappa**.....

29/12/24





**Varcons Technologies Pvt Ltd**

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## CERTIFICATE OF INTERNSHIP

This is to certify that **Abhishek Kumar** whose USN is **1MV20EC004**, has completed their **Embedded Systems** Internship organised and handled by **Var-cons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERSHIP REPORT**  
**ON**  
**“AUTOMATED PARKING SYSTEM USING ML”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ADAN BARI**

**1MV20EC005**

*Internship carried out at:*

**Compsoft Technologies,  
363, 19th Main Rd, 1st Block,  
Rajajinagar, Bengaluru, 560010**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Nithin K S,**  
Project Manager  
Compsoft Technologies  
Bengaluru, 560010



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

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BENGALURU-562157

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **ADAN BARI(1MV20EC005)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **COMPSOFT TECHNOLOGIES** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

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Krishna Nagar, Mysamaraiahalli  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VTU Bangalore 562 157**  
**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaragum**.....

  
29/5/24

2. **Manjunatha Siddappa**.....

  
29/5/24





**Compsoft Technologies**

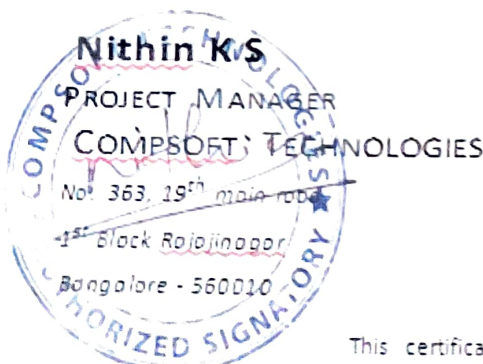
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## CERTIFICATE OF INTERNSHIP

This is to certify that **ADAN BARI** whose USN is **1MV20EC005**, has completed their **Machine Learning with Python (Research Based)** Internship organized and handled by **Compsoft Technologies** from **13<sup>th</sup> August, 2023** to **21<sup>st</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Automated Parking System using ML**. As part of the project, They designed the Machine Learning Model, Demonstrated and tested the working of the Model, Prepared a report highlighting its flaws by understanding the design briefs and client Specifications that were provided in the Proposal.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.



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**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“IOT DEVELOPMENT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ADARSH SINGH**

**1MV20EC006**

*Internship carried out at*

**Exposys Data Labs,  
Singanayakanahalli, Yelahanka,  
BENGALURU-560064**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Y Vishnuvardhan**  
Chief Director,  
Exposys Data Labs,  
Bengaluru-560064



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **ADARSH SINGH (1MV20EC006)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **IOT Developer** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

**Head of the Department**  
Dept. of ECE  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

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Krishnadevarayana Nagar, Hunsur, Mysore  
International Airport Road, Bengaluru - 562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguru**.....

  
29/5/24

2. **Manjunatha Biddappa**.....

  
2/5/24



# Exposys Data Labs



## Certificate of Internship

### TO WHOM IT MAY CONCERN

This is to certify that **Mr. ADARSH SINGH** has completed internship programme on **"IOT Developer"** from 13.08.2023 to 12.09.2023.

He took keen interest in the work assigned and successfully completed it. During the period of internship, we found him to be punctual, hardworking and inquisitive.

We wish him luck and success in all his future endeavours.

**Y Vishnuvardhan**

Chief Director



hr@exposysdata.com  
www.exposysdata.com

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“INTERNET OF THINGS (IOT)”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ADITYA ANAND**

**1MV20EC007**

*Internship carried out at*

**EXPOSYS DATA LABS**

**BENGALURU- 560064**

Internship Coordinator:

**Dr. Sasmita Mohapatra,**

Professor,

Dept of ECE, Sir MVIT

Bengaluru-562157

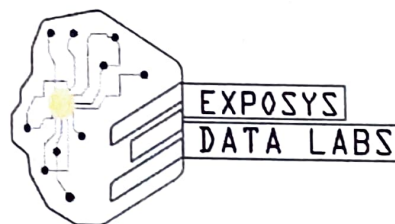
External Guide:

**Mr. Aravind Kumar**

R&D Engineer

**EXPOSYS DATA LABS**

Bengaluru-560064



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belgaavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **Aditya Anand**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **EXPOSYS DATA LABS** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship  
Coordinator

Signature of HOD

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsarmanahalli  
International Airport Road, Bangalore-562 157

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
Sir M VIT Bangalore 562 157

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaresan**

  
29/5/24

2. **Manjunatha Siddappa**

  
29/5/24



# Exposys Data Labs



## INTERNSHIP OFFER LETTER

Dear **ADITYA ANAND**,

Congratulations and welcome to **EXPOSYS DATA LABS!**

Pursuant to your application and the discussions we had with you, we are happy to offer you a position at **EXPOSYS DATA LABS.**, hereafter referred to as **EXPOSYS DATA LABS.**

You will be designated as Intern IOT Developer with a performance based after successful completion of 1 month internship period based on performance you are eligible for fulltime position at Exposys Data Labs.

For this position, your major duties will be including application process, Technical support. Your schedule will be approximately 15 hrs per week beginning 11.08.2023. Your assignment will be concluding on 10.09.2023

Congratulations and welcome to the team!

I accept the above offer, and will be begin on: 11.08.2023.

**Mr. Aravind Kumar**

R& D Engineer



hr@exposysdata.com  
www.exposysdata.com

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“WIRELESS COMMUNICATION”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**AIZAZ AHMED S**  
**1MV20EC008**

*Internship carried out at*  
**HB HALLI,**  
**KARNATAKA**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
**Professor, Dept. of ECE**  
**Sir MVIT, Bengaluru-562157**

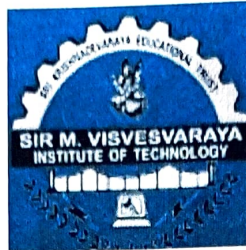


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**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**  
**BENGALURU-562157**

2023-2024  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **AIZAZ AHMED S (1MV20EC0008)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Intel Infotech** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
Internal Signature of Principal Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**  
**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguru**

  
29/5/24

2. **Manjunatha Siddappa**

  
29/5/24



# DECLARATION

I **AIZAZ AHMED S**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor**, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2023-2024.

Place: Bengaluru

AIZAZ AHMED S

Date:

IMV20EC008

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“ADVANCE EMBEDDED AND IoT INTERNSHIP”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*  
**AJAY KUMAR N**  
**1MV20EC009**  
*Internship carried out at*  
**SIR MVIT COLLEGE,**  
**BENGALURU-562157**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Mr. Kotresh M**  
Director,  
Indian TechKeys  
Bengaluru- 560038



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
SRI KRISHNADEVARAYA EDUCATIONAL TRUST  
BENGALURU-562157  
**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



## CERTIFICATE

This is to certify that **AJAY KUMAR N (1MV20EC0009)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

Signature of HOD

**PRINCIPAL**  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya Nagar, Maralahalli  
International Airport Road, Bangalore-562 157

**Dr. Sasmita Mohapatra**

**Dr. V. G. Supriya**

Principal

Professor

Professor & Head

Sir MVIT, Bengaluru

Dept. of ECE

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bengaluru**  
**External Viva** 562 157

Name of the Examiners

Signature with Date

1. Dr. R. Sundaraguru

  
29/5/24

2. Manjunatha Siddappa

  
28/5/24



## DECLARATION

I **AJAY KUMAR N**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor**, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

AJAY KUMAR N

Date:

1MV20EC009

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“INTERNET OF THINGS (IOT) ”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**AJITESH**

**PRAKASH**

**1MV20EC010**

*Internship carried out at*

**EXPOSYS DATA LABS**  
**BENGALURU- 560064**

Internship Coordinator:  
**Dr. Sasmita Mohapatra,**  
Professor,  
Dept of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Mr. Aravind Kumar**  
R&D Engineer  
EXPOSYS DATA LABS  
Bengaluru-560064



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157 2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belgavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **AJITESH PRAKASH**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **EXPOSYS DATA LABS** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship  
Coordinator

Signature of HOD

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishna Nagar, Hunsur, Mysore  
International Airport Road, Bangalore-562 157

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
Sir M VIT Bangalore 562 157

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundararam**

  
29/5/24

2. **Manjunatha Siddappa**

  
29/5/24



# Exposys Data Labs



## INTERNSHIP OFFER LETTER

Dear **AJITESH PRAKASH**,

Congratulations and welcome to **EXPOSYS DATA LABS!**

Pursuant to your application and the discussions we had with you, we are happy to offer you a position at **EXPOSYS DATA LABS.**, hereafter referred to as **EXPOSYS DATA LABS.**

You will be designated as Intern IOT Developer with a performance based after successful completion of 1 month internship period based on performance you are eligible for fulltime position at Exposys Data Labs.

For this position, your major duties will be including application process, Technical support. Your schedule will be approximately 15 hrs per week beginning 13.08.2023. Your assignment will be concluding on 12.09.2023

Congratulations and welcome to the team!

I accept the above offer, and will be begin on: 13.08.2023.

**Mr. Aravind Kumar**

R& D Engineer



hr@exposysdata.com  
www.exposysdata.com

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY JNANA**  
**SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“SMART PARKING SYSTEM USING ARDUINO”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**AKSHAT GUPTA**

**1MV20EC011**

*Internship carried out at*

**VARCONS TECHNOLOGIES**  
**213, 2<sup>nd</sup> FLOOR, 18 M G ROAD, ULSOOR**  
**BENGALURU-560001**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Spoorthi H.C**  
Director,  
Varcons Technologies  
Bengaluru-560001



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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **AKSHAT GUPTA(1MV20EC011)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **VARCONS TECHNOLOGIES** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevaraya Nagar, Hunsur, Bengaluru-562 157  
International Airport Road, Bangalore-562 157  
**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundararaman**

  
29/10/24

2. **Manjunatha Siddappa**

  
28/10/24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **AKSHAT GUPTA** whose USN is **1MV20EC011**, has completed their **Embedded Systems** Internship organised and handled by **Var-cons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT**

**ON**

**Smart Car Parking System Using Arduino**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**AMYA VERMA**

**1MV20EC012**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sasmita Mohapatra**

Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157



**External Guide:**

**Spoorthi H.C**

Director

Varcons Technologies Pvt Ltd

Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **Amya Verma (1MV20EC012)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from Varcons Technologies in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*[Signature]*  
2.5.24

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

*[Signature]*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

External Viva

Name of the Examiners

1. *[Signature]*

2. *[Signature]*

Signature with Date

*[Signature]* 29/5/24

*[Signature]* 29/5/24

*[Signature]*

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**  
**Signature of Principal**  
**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Amya Verma** whose USN is **1MV20EC012**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“EMBEDDED SYSTEM AND IoT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ANANYA SINGH**

**1MV20EC013**

*Internship carried out at*

**TAKE IT SMART (OPC) PVT LTD**  
**VIJAYANAGAR**  
**BENGALURU-560040**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



External Guide:  
**Mallikarjun Kumbar**  
Director,  
Take it Smart Ltd,  
Bengaluru-560040



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **ANANYA SINGH (1MV20EC013)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **TAKE IT SMART (OPC) PVT LTD** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore-562157  
Internship Coordinator: Bengaluru-562157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M. VIT, Bengaluru 562 157

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

29.5.24

2. **Dr. Sasmita Mohapatra**

29.5.24



# DECLARATION

I **ANANYA SINGH**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Date:

**ANANYA SINGH**

**1MV20EC013**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ANISHA KUMARI**

**1MV20EC014**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**Halasuru, M.G Road**  
**BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **ANISHA KUMARI (1MV20EC014)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

Head of the Department  
Electronics & Communications Engineering  
Sir MVIT, Bengaluru 562 157

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishna Nagar, Hunsur, Mysore  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

28.05.24

2. **Dr. Sasmita Mohapatra**

29.5.24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Anisha Kumari** whose USN is **1MV20EC014**, has completed their **Embedded Systems Internship** organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“ADVANCE EMBEDDED AND IoT INTERNSHIP”**

*Submitted in partial fulfilment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*  
**ANJAN KUMAR M L**  
**1MV20EC015**

*Internship carried out at*  
**SIR MVIT COLLEGE,**  
**BENGALURU-562157**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Mr. Kotresh M**  
Director,  
Indian TechKeys  
Bengaluru- 560038



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**  
**2023-2024**  
**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **ANJAN KUMAR M L (1MV20EC015)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*[Signature]*

Signature of the Internship Coordinator

**Dr Sasmita Mohapatra**

Professor

Dept. of ECE

*[Signature]*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

*[Signature]*

**PRINCIPAL**

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsarnerahalli  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**

**Electronics & Communications Engineering**

**Sir M. VIT Bangalore 562 157**

External Viva

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

*[Signature]* 29/5/24

2. **Dr. Sasmita Mohapatra**

*[Signature]* 29.5.24



# DECLARATION

I **ANJAN KUMAR M L**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embody report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

ANJAN KUMAR M L

Date:

1MV20EC015

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ANKIT KUMAR**

**1MV20EC016**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**Halasuru, M.G Road**  
**BENGALURU-560001**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



External Guide:  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **ANKIT KUMAR (1MV20EC016)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VTU Bangalore 562 157**

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

29/05/24

2. **Dr. Sasmita Mohapatra**

29.5.24





**Varcons Technologies Pvt Ltd**

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## CERTIFICATE OF INTERNSHIP

This is to certify that **Ankit Kumar** whose USN is **1MV20EC016**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON**

**“SMART PARKING SYSTEM USING ARDUINO”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ANUBHAB SARKAR**

**1MV20EC017**

*Internship carried out at*

**VARCONS TECHNOLOGIES  
213, 2<sup>nd</sup> FLOOR, 18 M G ROAD, ULSOOR  
BENGALURU-560001**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Spoorthi H.C**  
Director,  
Varcons Technologies  
Bengaluru-560001



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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **ANUBHAB SARKAR(1MV20EC017)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **VARCONS TECHNOLOGIES** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Head of the Department  
Dept. of ECE  
Electronics & Communications Engineering

**Sir M. VIT Bangalore 562 157**

**PRINCIPAL**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunsur  
International Airport Road, Bengaluru-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

29.10.24

2. **Dr. Sasmita Mohapatra**

29.10.24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Anubhab Sarkar** whose USN is **1MV20EC017** , has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled "**Smart Parking System**" project using **Arduino** , As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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21/

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ANUPAM**

**1MV20EC018**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**Halasuru, M.G Road**  
**BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **ANUPAM (1MV20EC018)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineer.**  
**Sir M. VIT Bengaluru 562 157**

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadasarayaiah Road, Hennahalli  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

29/05/24

2. **Dr. Sasmita Mohapatra**

29.5.24





**Varcons Technologies Pvt Ltd**

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## CERTIFICATE OF INTERNSHIP

This is to certify that **Anupam** whose USN is **1MV20EC018**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with **Advanced Microcontrollers** and **Sensor Interfaces**. They interacted with these interfaces using **embedded programming languages**. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**

**“ADVANCE EMBEDDED AND IoT INTERNSHIP”**

*Submitted in partial fulfilment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ANURAG R NAIK**  
**1MV20EC019**

*Internship carried out at*  
**SIR MVIT COLLEGE,**  
**BENGALURU-562157**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Mr. Kotresh M**  
Director,  
Indian TechKeys  
Bengaluru- 560038



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**  
**2023-2024**

**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

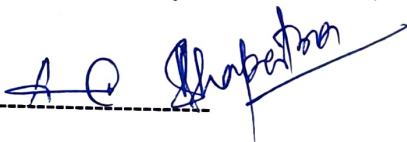
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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



## CERTIFICATE

This is to certify that **ANURAG R NAIK (1MV20EC019)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.



Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE



Signature of HOD

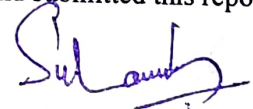
**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

**External Viva**



**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunsur, Mysore Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1. 

 29/05/24

2. 

 29.5.24



## DECLARATION

I **ANURAG R NAIK**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

ANURAG R NAIK

Date:

1MV20EC019

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ANURAG SINGH**

**1MV20EC020**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

This is to certify that **ANURAG SINGH (1MV20EC020)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. Visvesvaraya Institute of Technology**  
**Bengaluru - 562157**

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
International Airport Road, Bangalore-562157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

29/05/24

2. **Dr. Sasmita Mohapatra**

29.5.24



## DECLARATION

I **ANURAG SINGH**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor**, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

ANURAG SINGH

Date:

1MV20EC020

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“ADVANCED EMBEDDED SYSTEM AND IoT  
DESIGN”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**APARNA C**

**1MV20EC021**

*Internship carried out at*

**INDIAN TECH-KEYS**

**BANGALORE-560038**

**INTERNSHIP CO-ORDINATOR:**

**Dr. SASMITHA MOHAPATRA**  
**PROFESSOR,**  
**Dept. of ECE, Sir MVIT**  
**Bengaluru-562157**



**EXTERNAL GUIDE:**

**Mr. KOTRESH M**  
**DIRECTOR**  
**Indian Tech-Keys,**  
**Baiyappanahalli**  
**Bengaluru-560068**



# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **APARNA C (1MV20EC021)**, a Bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bangalore** has satisfactorily completed Industrial training from **Indian Tech-Keys, Bangalore-560038** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya Road, Bangalore-562157  
International Airport Road, Bangalore-562157  
Signature of Principal  
**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

External Viva

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

28.10.24

2. **Dr. Sasmita Mohapatra**

29.10.24



## **DECLARATION**

I **Aparna C** , student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmitha Mohapatra** , Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bangalore**

**Date:24/05/2024**

**APARNA C**

**1MV20EC021**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT**  
**ON**

**Smart Car Parking System Using Arduino**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**APOORV KUMAR**

**1MV20EC022**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**BENGALURU-560001**

Internship Coordinator:

**Dr. Sasmita Mohapatra**

Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157



External Guide:

**Spoorthi H.C**

Director

**Varcons Technologies Pvt Ltd**

**Bengaluru-560001**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**



## CERTIFICATE

This is to certify that **APOORV KUMAR (1MV20EC022)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya Nagar, Hunasamaranahalli  
International Airport Road, Bengaluru-562157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

29.05.24

2. **Dr. Sasmita Mohapatra**

29.05.24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Apoorv Kumar** whose USN is **1MV20EC022**, has completed their **Embedded Systems Internship** organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Car Parking System Using Arduino**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“EYE GESTURE BASED SMART AUTOMATION”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ARANI GNANESH REDDY**

**1MV20EC023**

*Internship carried out at*

**"Inventeron Technologies and Business Solution LLP"**

**BENGALURU-560023**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Sk Asim**  
MANAGER,  
Inventron Technologies  
Bengaluru-560023



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**



## CERTIFICATE

This is to certify that **ARANI GNANESH REDDY (1MV20EC023)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from "**Inventeron Technologies and Business Solution LLP**" in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

**Head of the Department**  
Dept. of ECE  
**Electronics & Communications Engineering**  
**Sir M VT Bangalore 562 157**

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsanahalli  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

1. **Dr. Harish S.**

2. **Dr. Sasmita Mohapatra**

Signature with Date



## DECLARATION

I **ARANI GNANESH REDDY**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra**, Professor, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2023-2024.

Place: Bengaluru

ARANI GNANESH REDDY

Date:

1MV20EC023

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ARMAN ARYAN**

**1MV20EC024**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **ARMAN ARYAN (1MV20EC024)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bengaluru-562157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**  
**External Viva**

Name of the Examiners

Signature with Date

1.

29.10.24

2.

29.5.24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Arman Aryan** whose USN is **1MV20EC024**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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18 M G Road, Ulsoor, Bangalore-560001

[www.varconstech.com](http://www.varconstech.com)

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ARUSHI GUPTA**

**1MV20EC025**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **ARUSHI GUPTA (1MV20EC025)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishtnada, Bengaluru, Munasammanahalli  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. Sasmita Mohapatra**

2. **Dr. Harish S.**





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Arushi Gupta** whose USN is **1MV20EC025**, has completed their **Embedded Systems Internship** organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT**  
**ON**  
**“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ARYA KUMARI**

**1MV20EC026**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**Halasuru, M.G Road**  
**BENGALURU - 560001**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**  
**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **ARYA KUMARI (1MV20EC026)**, a bonafide student of Sir M. Visvesvaraya Institute of Technology, Bengaluru has satisfactorily completed Industrial training from Varcons Technologies Pvt Ltd in partial fulfillment of the requirements as prescribed by the VTU for the award of Bachelor of Engineering in Electronics and Communication Engineering and submitted this report during the academic year 2023 – 2024.

Signature of Internship Coordinator  
Dr. Sasmita Mohapatra  
Professor  
Dept. of ECE

Signature of HOD  
Dr. V. G. Supriya  
Professor & Head  
Dept. of ECE

Head of the Department  
Electronics & Communications Engineering  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BANGALORE - 562157

PRINCIPAL  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
International Airport Road, Bangalore-562157  
Signature of Principal  
Prof. Rakesh S.G.

Principal  
Sir MVIT, Bengaluru

External Viva

Name of the Examiner

Signature with Date

1. Dr. Sasmita Mohapatra
2. Dr. Harish S.

29.5.24  
  
29/05/24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **ARYA KUMARI** whose USN is **1MV20EC026**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **smart parking system using IOT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“ADVANCE EMBEDDED AND IoT INTERNSHIP”**

*Submitted in partial fulfilment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ARYAN SINGH**

**1MV20EC027**

*Internship carried out at*  
**SIR MVIT COLLEGE,**  
**BENGALURU-562157**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Mr. Kotresh M**  
Director,  
Indian TechKeys  
Bengaluru- 560038



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**  
**2023-2024**

**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



## CERTIFICATE

This is to certify that **ARYAN SINGH (1MV20EC027)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT, Bengaluru - 562157**  
**External Viva**

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunsar, Hunsar, Hunsar  
International Airport, Bengaluru - 562157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1.

*Dr. Sasmita Mohapatra*

*Sasmita Mohapatra*  
29.5.24

2.

*Dr. Harish S*

*Dr. Harish S*  
29.5.24



## DECLARATION

I **ARYAN SINGH**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

ARYAN SINGH

Date:

1MV20EC027

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“Sentiment Analysis of Lockdown During COVID-19 in USA”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ASHISH KUMAR**

**1MV20EC028**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**

**Halasuru, M.G Road**

**BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sasmita Mohapatra**

**Professor,**

**Dept. of ECE, Sir MVIT**

**Bengaluru-562157**



**External Guide:**

**Tejas N.**

**Director,**

**Varcons Technologies Pvt Ltd,**

**Bengaluru-560001**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**



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BENGALURU-562157


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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **ASHISH KUMAR (1MV20EC028)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023-2024**.

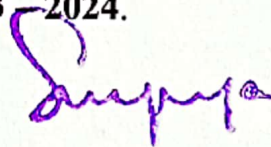


Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE



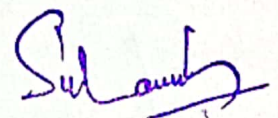
Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT - Bangalore - 562 157**



PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya Road, Mysuru  
International Airport Road, Bangalore-562 157

Signature of Principal


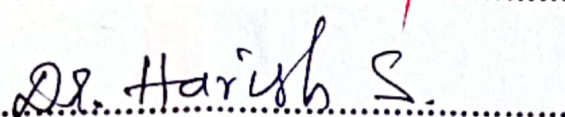
**Prof. Rakesh S.G.**

Principal

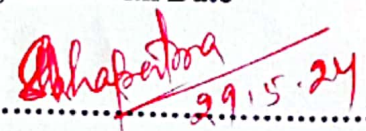
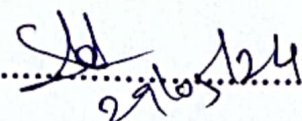
Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

1. 
2. 

Signature with Date





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Ashish Kumar** whose USN is **1MV20EC028**, has completed their **Machine Learning With Python (Research Based)** Internship organised and handled by **Varcons Technologies Pvt. Ltd** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Sentiment Analysis Of Lockdown In India During Covid-19 : A Case Study**, As part of the project, They designed the Machine Learning Model, Demonstrated and tested the working of the Model, Prepared a report highlighting its flaws by understanding the design briefs and client Specifications that were provided in the Proposal.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**AVINASH HIREMATH**  
**1MV20EC029**

*Internship carried out at*  
**Take It Smart Pvt Ltd**  
**Vijayanagar**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Mr. Mallikarjun Kumbar**  
The Director,  
Take It Smart Pvt Ltd

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**





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BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **AVINASH HIEMATH (1MV20EC029)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Take It Smart Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 15**

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Krisnadevarayanagar, Hunsar, Hunsarhalli  
International Airport Road, Bangalore-562 15

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. Sasmita Mohapatra**

2. **Dr. Harish S**



# DECLARATION

I **AVINASH HIREMATH**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor**, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Date:

AVINASH HIREMATH

1MV20EC029



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“Sentiment Analysis of Lockdown During COVID-19 in USA”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**AYUSH KAUSHIK**

**1MV20EC030**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



External Guide:  
**Tejas N.**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**



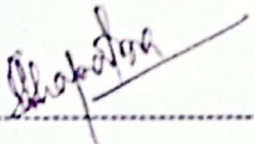


DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



CERTIFICATE

This is to certify that **AYUSH KAUSHIK (IMV20EC030)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

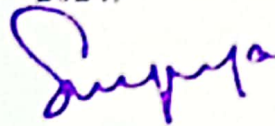


Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE



Signature of HOD


**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

External Viva



Signature of Principal

**Prof. Rakesh S.G.**  
Krishna Murthy Mahalingaiah  
International Airport Road, Bangalore-562 157

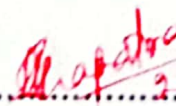
Principal

Sir MVIT, Bengaluru


Name of the Examiners

Signature with Date

1. **Dr. Sasmita Mohapatra**

  
**29.12.24**

2. **Dr. Harish S.**

  
**29.12.24**





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Ayush Kaushik** whose USN is **1MV20EC030**, has completed their **Machine Learning With Python (Research Based)** Internship organised and handled by **Varcons Technologies Pvt. Ltd** from **13<sup>th</sup> August, 2023 to 20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Sentiment Analysis Of Lockdown In India During Covid-19 : A Case Study**, As part of the project, They designed the Machine Learning Model, Demonstrated and tested the working of the Model, Prepared a report highlighting its flaws by understanding the design briefs and client Specifications that were provided in the Proposal.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**INTERNSHIP REPORT**  
**ON**  
**“Sentiment Analysis of Lockdown During COVID-19 in USA”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**AYUSH SINGH**

**1MV20EC031**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**Halasuru, M.G Road**  
**BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Tejas N.**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

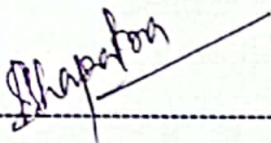






## CERTIFICATE

This is to certify that **AYUSH SINGH (1MV20EC031)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.



Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE



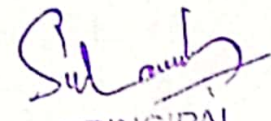
Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VT Bangalore 562 157**



**PRINCIPAL**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnadevaraya Road, Bengaluru-562 157**  
**International Airport Road, Bengaluru-562 157**  
**Signature of Principal**  
**Prof. Rakesh S.G.**

Principal

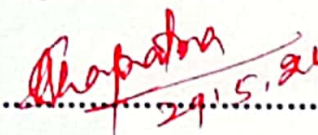
Sir MVIT, Bengaluru

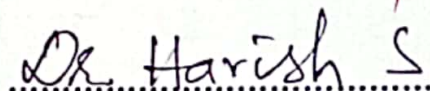
### External Viva

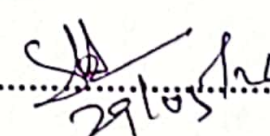
Name of the Examiners

Signature with Date

1. 

  
29/5/24

2. 

  
29/05/24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Ayush Singh** whose USN is **1MV20EC031**, has completed their **Machine Learning With Python (Research Based)** Internship organised and handled by **Varcons Technologies Pvt. Ltd** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Sentiment Analysis Of Lockdown In India During Covid-19 : A Case Study**, As part of the project, They designed the Machine Learning Model, Demonstrated and tested the working of the Model, Prepared a report highlighting its flaws by understanding the design briefs and client Specifications that were provided in the Proposal.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**INTERNSHIP REPORT  
ON**

**“Interfacing DDR4 SDRAM on Kintex Evaluation Board”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**B KAVYA**

**1MV20EC032**

*Internship carried out at*

**CENTUM ELECTRONICS LTD  
BENGALURU-560064**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Yogendra singh**  
Manager,  
Centum Electronics Ltd,  
Bengaluru-560064



Centum Electronics Limited

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**





## CERTIFICATE

This is to certify that **B KAVYA (1MV20EC032)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Centum Electronics Limited** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

**Head of the Department**

**Electronics & Communications Engineering**

**Sir M VIT Bangalore 562 157**

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya Nagar, 1st Stage, 8th Cross,  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. Sasmita Mohapatra**

**Dr. Sasmita Mohapatra**  
**29.5.24**

2. **Dr. Harish S.**

**Dr. Harish S.**  
**29.5.24**





11<sup>th</sup> September 2023

**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that **Ms. B Kavya (USN NO: 1MV20EC032)**, a student of Sir M Visvesvaraya Institute of Technology has completed the internship from 11<sup>th</sup> August 2023 to 11<sup>th</sup> September 2023 at Centum Electronics Ltd in partial fulfilment of **Bachelor of Engineering**.

*During the period, her conduct was good.*

*We wish her good luck and success in her future endeavours.*

**For Centum Electronics Limited**

**Authorized Signatory**

**Centum Electronics Limited**

# 44, KHB Industrial Area, Yelahanka New Town, Bangalore-560 106, Karnataka, India

**Tel** +91-(0)80-4143-6000 **Fax** +91-(0)80-4143-6005 **E-mail** info@centumelectronics.com

**Web** www.centumelectronics.com **CIN** - L85110KA1993PLC013869



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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“EMBEDDED SYSTEM AND IOT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Balasetty Sravani**

**1MV20EC033**

*Internship carried out at*

**VARCONS TECHNOLOGIES**

**BENGALURU-560001**

Internship Coordinator:

**Dr. Sasmitha Mohapatra**

Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157

External Guide:

**Mrs. Spoorthi C**

Director,

Varcons Technologies,

Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**





**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **Balasetty Sravani (1MV20EC033)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmitha Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
Electronics & Communications Engineering  
Sir M. VIT, Bengaluru - 562157  
External Viva

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishna Nagar, Hunsur, Mysore  
International Airport Road, Bangalore-562157  
Prof. Rakesh S.G.

Principal

Sir MVIT, Bengaluru

Name of the Examiners

1. **Dr. Sasmitha Mohapatra**

2. **Dr. Harish S.**

Signature with Date






**Varcons Technologies Pvt Ltd**  
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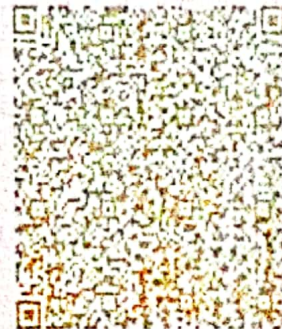
## CERTIFICATE OF INTERNSHIP

This is to certify that **Balasetty Sravani** whose USN is **1MV20EC033**, has completed their **Embedded Systems Internship** organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart street light system**. As part of the project, they worked with **Advanced Microcontrollers and Sensor Interfaces**. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)  or scan.



[www.varconstech.com](http://www.varconstech.com)  
[contact@varconstech.com](mailto:contact@varconstech.com)

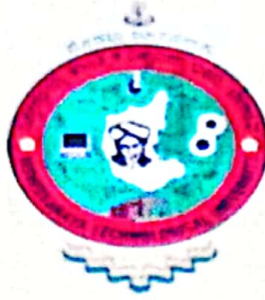
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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON**

**“Sentiment Analysis of Lockdown During COVID-19 in USA”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**BHASKAR KUMAR SINHA**

**1MV20EC034**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Tejas N.**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



CERTIFICATE

This is to certify that **BHASKAR KUMAR SINHA(1MV20EC034)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**

**Electronics & Communications Engineering**

**Sir M VIT Bangalore 562 157**

**External Viva**

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevaraya Nagar, Hunsar, Bangalore-562 157

Internal Viva

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1. **Dr. Sasmita Mohapatra**

**Dr. Sasmita Mohapatra**  
**29.5.24**

2. **Dr. Harish S.**

**Dr. Harish S.**  
**29.5.24**



## DECLARATION

I **BHASKAR KUMAR SINHA**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra**, Professor, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2023-2024.

Place: Bengaluru

Date:

**BHASKAR KUMAR SINHA**

1MV20EC034



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERSHIP REPORT**  
**ON**  
**“ADVANCE EMBEDDED AND IoT INTERNSHIP”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*  
**DARSHAN RAMADAS BHANDARI**  
**1MV20EC039**

*Internship carried out at*  
**SIR MVIT COLLEGE,**  
**BENGALURU-562157**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
**Professor**  
**Dept. of ECE, Sir MVIT**  
**Bengaluru-562157**

**External Guide:**  
**Mr. Kotresh M**  
**Director,**  
**Indian TechKeys**  
**Bengaluru- 560038**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**  
**BENGALURU-562157**  
**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **DARSHAN RAMADAS BHANDARI (1MV20EC039)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator  
**Dr. Sasmita Mohapatra**  
Professor  
Dept. of ECE

Signature of HOD  
**Dr. V. G. Supriya**  
Professor & Head  
Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
Sir M. Visvesvaraya Institute of Technology  
Bengaluru-562157  
**External Viva**

**PRINCIPAL**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishna Nagar, Basavanahalli  
International Airport Road, Bangalore-562 157  
**Signature of Principal**  
**Prof. Rakesh S.G.**  
Principal  
Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaragurusu**

  
30/5/24

2. **Dr. Shwetha V**

  
30/5/24



# DECLARATION

I **DARSHAN RAMADAS BHANDARI**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

**DARSHAN RAMADAS BHANDARI**

Date:

**1MV20EC039**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“IOT BASED SMART PARKING SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**DEEPTHI**

**1MV20EC040**

*Internship carried out at*

**INVENTERON TECHNOLOGIES**  
**HEBBAL**  
**BENGALURU-560024**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Mr. Syed Asim Ahmed**  
Co-Founder  
Inventeron Technologies  
Bengaluru-560024



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

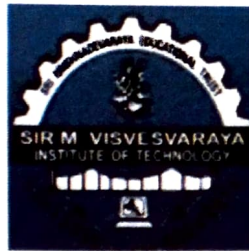
**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **DEEPTHI (1MV20EC040)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INVENTERON TECHNOLOGIES** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**

**Electronics & Communications Engineering**

**Sir M. Visvesvaraya Institute of Technology, Bengaluru - 562157**

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sundararam**.....

1. 30/5/24.....

2. **Dr. Shwetha V**.....

2. **Shwetha** 30/5/24.....



## DECLARATION

I **DEEPTHI**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Date: 03/04/2024



DEEPTHI

1MV20EC040

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“REAL-TIME TRAFFIC USING IoT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**DEV PRAKASH**

**1MV20EC041**

*Internship carried out at*

**Exposys Data Labs,  
Singanayakanahalli, Yelahanka,  
BENGALURU-560064**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Y Vishnuvardhan**  
Chief Director,  
Exposys Data Labs,  
Bengaluru-560064



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **DEV PRAKASH (1MV20EC041)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **IOT Developer** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
Electronics & Communications Engineering

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
KRIHARDE Signature of Principal  
International Airport Road, Bengaluru-562157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaresan**

  
2015/24

2. **Dr. Shwetha - V**

  
2015/24



# Exposys Data Labs



## Certificate of Internship

### TO WHOM IT MAY CONCERN

This is to certify that **Mr. DEV PRAKASH** has completed internship programme on **"IOT Developer"** from 13.08.2023 to 12.09.2023.

He took keen interest in the work assigned and successfully completed it. During the period of internship, we found him to be punctual, hardworking and inquisitive.

We wish him luck and success in all his future endeavours.

**Y Vishnuvardhan**

Chief Director



hr@exposysdata.com  
www.exposysdata.com

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree.*

**BACHELOR OF ENGINEERING  
in  
ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Devika H A**

**1MV20EC042**

*Internship carried out at*

**VARACONS TECHNOLOGIES  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**SPOORTHIL. C**  
**VARACONS**  
**TECHNOLOGIES**  
Bengaluru-560001

Varcons Technologies Pvt Ltd  
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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

2023-2024

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **DEVIKA H A (1MV20EC042)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varacon's Technologies** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M. Visvesvaraya Institute of Technology  
Bangalore 562 157

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaregum**

  
30/5/24

2. **Dr. Shwetha V**

  
30/5/24



# CERTIFICATE



**Varcons Technologies Pvt Ltd**

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## CERTIFICATE OF INTERNSHIP

This is to certify that **Devika H A** whose USN is **1MV20EC042**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Patient Ward Using IOT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



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18 M G Road, Ulsoor, Bangalore-560001

[WWW.VARCONSTECH.COM](http://WWW.VARCONSTECH.COM)

[contact@varconstech.com](mailto:contact@varconstech.com)

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“Building an E-Learning Web application Platform”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**DHANUSH B C**

**1MV20EC043**

*Internship carried out at*

**Exposys Data Labs  
Yelahanka, Singanayakanahalli  
BENGALURU-560064**

**Internship Coordinator:**

**Dr. Sasmita Mohapatra**

**Professor,**

**Dept. of ECE, Sir MVIT**

**Bengaluru-562157**

**External Guide:**

**Y Vishnuvardhan**

**Chief Director,**

**Exposys Data Labs,**

**Bengaluru-560064**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **DHANUSH B C (1MV20EC043)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Exposys Data Labs** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

**External Viva**

**PRINCIPAL**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevaraya Street, Hebbal, Bengaluru  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1. **Dr. R. Sundararam**

**30/5/24**

2. **Dr. Shwetha V**

**30/5/24**



# Exposys Data Labs



## Certificate of Internship

### TO WHOM IT MAY CONCERN

This is to certify that **Mr. DHANUSH BC** has completed internship programme on “**Software Developer**” from 12.08.2023 to 11.09.2023.

He took keen interest in the work assigned and successfully completed it. During the period of internship we found him to be punctual, hardworking and inquisitive.

We wish him luck and success in all his future endeavours.

**Y Vishnuvardhan**

Chief Director



hr@exposysdata.com  
www.exposysdata.com

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“ADVANCED EMBEDDED SYSTEM AND IoT  
DESIGN”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**D JOSHNA**

**1MV20EC044**

*Internship carried out at*

**INDIAN TECH-KEYS**

**BANGALORE-560038**

**INTERNSHIP CO-ORDINATOR:**

**Dr. SASMITHA MOHAPATHRA**  
PROFESSOR, DEPT. OF ECE ,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**EXTERNAL GUIDE:**

**Mr. KOTRESH M**  
DIRECTOR  
Indian Tech-Keys,  
Baiyappanahalli  
Bengaluru-560068



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU  
**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **D JOSHNA (1MV20EC044)**, a Bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bangalore** has satisfactorily completed Industrial training from **Indian Tech-Keys, Bangalore-560038** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. SASMITHA MOHAPATHRA**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Kannur Road, Sir M. Visvesvaraya Nagar, Bangalore-562157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M. VIT Bangalore 562 157

External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguru**.....

30/5/24

2. **Dr. Shwetha V**.....

30/5/24



## **DECLARATION**

I **D JOSHNA**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr.SASMITHA MOHAPATHRA** , Associate Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bangalore**

**Date:**

**D JOSHNA**

**1MV20EC044**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“APPLICATION DEVELOPMENT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*  
**DILEEP G C**  
**1MV20EC045**  
*Internship carried out at*  
**TELE INDIA OFFICE,**  
**BENGALURU-562149**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Mr. Raghuram**  
Director,  
Tele India  
Bengaluru- 562149



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**  
**BENGALURU-562157**  
**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevrayanagar, Hunasamaranahalli Bangalore-562157

(Affiliated to Visvesvaraya Technological University, Belgavi)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



YEAR 2022-2023

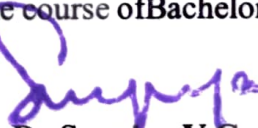
### CERTIFICATE

Certified that the 7th Semester Internship titled “**APPLICATION DEVELOPEMENT**” is a bonafide work carried out by Dileep G C (1MV20EC057) in partial fulfilment for the award of degree of Bachelor of Engineering in Department of **ELECTRONICS AND COMMUNICATION ENGINEERING** of the Visvesvaraya Technological University, Belagavi, during the year 2022-23. The internship report has been approved as it satisfies the academic requirements with respect to the Internship work prescribed for Bachelor of Engineering. The project report has been approved as it satisfies the academic requirements in respect of the project work prescribed for the course of Bachelor of Engineering.

  
Dr. Sasmita Mohapatra


Prof, Dept. of ECE

Sir MVIT Bangalore

  
Dr. Supriya V G

Prof. & Head of Dept.

Sir MVIT Bangalore

  
Prof. Rakesh S G

Principal  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevrayanagar, Hunasamaranahalli  
International Airport Road, Bangalore-562157

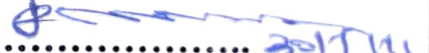
Sir MVIT Bangalore


Name of Examiner

1. 

2. 

Signature with Date

1. 

2.   
30/5/24



## **DECLARATION**

I, Dileep G C , final year student of Electronics and Communication Engineering.

Sir M Visvesvaraya Institute of Technology, declare that the Internship has been successfully completed, in TELEINDIA NETWORKS Pvt Ltd. This report is submitted in partial fulfillment of the requirements for award of Bachelor Degree in Branch name, during the academic year 2023-2024.

**Place:** Bengaluru

**Name:** Dileep G C

**Date:** 22/09/2023

**USN:** 1MV20EC056

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ENAM HABIBUR RAB**

**1MV20EC046**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **ENAM HABIBUR RAB (1MV20EC046)**, a bonafide student of Sir M. Visvesvaraya Institute of Technology, Bengaluru has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of Bachelor of Engineering in Electronics and Communication Engineering and submitted this report during the academic year 2023 – 2024.

*[Signature]*

*[Signature]*

*[Signature]*

Signature of the Internship Coordinator

Signature of HOD

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevaraya Road, Hunsur, Mysore - 562 157  
International Airport Road, Bangalore - 562 157

**Dr. Sasmita Mohapatra**

**Dr. V. G. Supriya**

Signature of Principal

**Prof. Rakesh S.G.**

Professor

Professor & Head

Principal

Dept. of ECE

Dept. of ECE

Sir MVIT, Bengaluru

**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. R. Sundaragum*

*[Signature]* 30/5/24

2. *Dr. Shwetha V*

*Shwetha* 30/5/24





Date: 11<sup>th</sup> August, 2023

Name: **Enam Habibur Rab**

USN: **1MV20EC046**

Placement ID: **1108ES909**

**Dear Student,**

We would like to congratulate you on being selected for the **Embedded Systems with IOT** Internship position with **Varcons Technologies**, effective Start Date **11<sup>th</sup> August, 2023**. All of us are excited about this opportunity provided to you!

This internship is viewed as being an educational opportunity for you, rather than a part-time job. As such, your internship will include training/orientation and focus primarily on learning and developing new skills and gaining a deeper understanding of concepts of **Embedded Systems with IOT** through hands-on application of the knowledge you learn while you train with the senior developers. You will be bound to follow the rules and regulations of the company during your internship duration.

Again, congratulations and we look forward to working with you!.

Sincerely,

Spoorthi H C

**Director**

VARCONS TECHNOLOGIES

213, 2<sup>st</sup> Floor, 18 M G Road, Ulsoor,

Bangalore-560001

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“MANUFACTURING OF RAIL WHEELS, AXLES AND WHEEL SETS,**  
**ELECTRONICS LAB”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

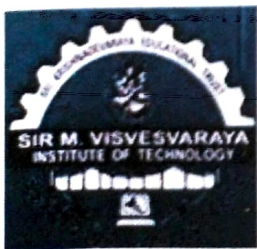
**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**G PAVITHRAN**  
**1MV20EC047**

*Internship carried out at*  
**RAIL WHEEL FACTORY**  
**YELAHANKA**  
**BENGALURU- 560064**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



External Guide:  
**Ajit Kumar Tripathi**  
Principal,  
TTC, Rail Wheel Factory  
Bengaluru-560064



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

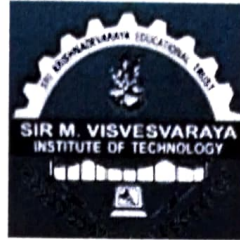
**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **G PAVITHRAN (1MV20EC047)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Rail Wheel Factory** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*[Signature]*

*[Signature]*

*[Signature]*

Signature of the Internship Coordinator

Signature of HOD

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore Road,  
International Airport Road, Bangalore-562 157

**Dr. Sasmita Mohapatra**

**Dr. V. G. Supriya**

**Prof. Rakesh S.G.**

Professor

Professor & Head

Principal

Dept. of ECE

Dept. of ECE

Sir MVIT, Bengaluru

**Head of the Department**  
Electronics & Communications Engineer  
Sir M. VIT Bangalore 562 157

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. R. Sundararam*

*[Signature]* 30/5/24

2. *Dr. Shwetha V*

*Shwetha*  
30/5/24



# Certificate

DATE: 12/09/2023

This is to certify that Mr: Ms..... **G PAVITHRAN**..... Regn. No..... **1MV20EC047**..... Course..... **B.E**  
Branch..... **ELECTRONICS AND COMMUNICATION ENGINEERING**..... III..... Year Student of.....  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**..... has undergone..... **INTERSHIP TRAINING**  
on **MANUFACTURING OF RAIL WHEELS, AXLES & WHEEL SETS.ELECTRONIC LAB** and Successfully  
completed the same during the period from .....11/08/2023.....to.....09/09/2023.....at Rail Wheel Factory;

149

Technical Training Centre  
RIF, Bangalore-64

*Dy. CME-TQM Principal*

Technical Training Centre  
RWF, Bangalore-64

PRINCIPAL / P.D. 6

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Bengalore - 560 004

# VISVESVARAYA TECHNOLOGICAL UNIVERSITY

JNANA SANGAMA, BELAGAVI – 590 018



## INTERNSHIP REPORT

ON

### “EMBEDDED SYSTEMS AND INTERNET OF THINGS”

*Submitted in partial fulfillment of the requirements for the award of the degree*

## BACHELOR OF ENGINEERING

in

## ELECTRONICS & COMMUNICATION ENGINEERING

*Submitted by:*

**GAGANA R**

**1MV20EC048**

*Internship carried out at*

**KARUNADU TECHNOLOGIES PVT LTD**

**HESARGHATTA**

**BENGALURU-560090**

Internship Coordinator:

**Dr. Sasmita Mohapatra**

Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157

External Guide:

**HARISH N**

Guide,

Karunadu Technologies,

Bengaluru-560090



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

BENGALURU-562157

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **GAGANA R (1MV20EC048)**, a bonafide student of Sir **M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **KARUNADU TECHNOLOGIES PVT LTD** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hosur-Samaranahalli  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. Dr. R. Sundararam

30/5/24

2. Dr. Shwetha V

30/5/24





ಕರುನಾಡು ಟೆಕ್ನಾಲಜೀಸ್ ಪ್ರೈವೇಟ್ ಲಿಮಿಟೆಡ್  
KARUNADU TECHNOLOGIES PRIVATE LIMITED

*Certificate  
of Completion*

INTERNSHIP PROGRAM  
ON  
EMBEDDED AND IOT



1MV20EC048

THIS IS TO CERTIFY THAT  
MR/Ms. **GAGANA R.**

FROM SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY  
HAS COMPLETED INTERNSHIP PROGRAM ON  
EMBEDDED AND IOT

CONDUCTED FROM 16-AUG-2023 TO 16-SEPT-2023 AT  
KARUNADU TECHNOLOGIES PVT. LTD.

Mahesh Dignat  
MD & CEO  
Karunadu Technologies Pvt. Ltd.



Harish N.  
GUIDE  
Karunadu Technologies Pvt. Ltd.

E-mail : karunadutechnologies@gmail.com

www.karunadutechnologies.com

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“EYE GESTURE BASED SMART AUTOMATION”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**GALI SHASHIDHAR**

**1MV20EC049**

*Internship carried out at*

**"Inventeron Technologies and Business Solution LLP"**

**BENGALURU-560023**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Sk Asim**  
MANAGER,  
Inventeron Technologies  
Bengaluru-560023



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **GALI SHASHIDHAR (1MV20EC049)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from "**Inventeron Technologies and Business Solution LLP**" in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*[Signature]*

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

*[Signature]*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

**Head of the Department**

**Electronics & Communications Engineering**

**Sir M VIT Bangalore 562 157**

*[Signature]*

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunsur, Hosanur  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. .... *Dr. R. Sundaragum* .....

*[Signature]* 30/5/24

2. .... *Dr. Shwetha V* .....

*[Signature]* 30/5/24



## DECLARATION

I **GALI SHASHIDHAR**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Date:

**GALI SHASHIDHAR**

**1MV20EC049**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“LIGHT COMBAT AIRCRAFT(LCA) TEJAS”**

*Submitted in partial fulfillment of the requirements for the award of the degree.*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**GEETHA PRIYA CR**

**1MV20EC050**

*Internship carried out at*

**LCA TEJAS DIVISION, HAL**  
**BENGALURU-560008**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



External Guide:  
**NIYAS .C.M.**  
LCA TEJAS  
DIVISION, HAL  
Bengaluru-560008



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

This is to certify that **GEETHAPRIYA CR(1MV20EC050)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **LCA TEJAS DIVISION, HAL** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT, Bangalore - 562157**

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Kistnadivarayanagar, Hunsur, Mysore  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguru**

30/5/24

2. **Dr. Shwetha V**

30/5/24



# CERTIFICATE

एल सी ए तेजस प्रभाग  
बैंगलूर कॉम्प्लेक्स  
हिन्दुस्तान एरोनाटिक्स लिमिटेड

पोस्ट बॉक्स नं. 3791, मारथहल्ली पोस्ट, बैंगलूर - 560 037, इंडिया  
फैक्स (कैलिंग) : 080-2232 3812



LCA TEJAS DIVISION  
BANGALORE COMPLEX  
HINDUSTAN AERONAUTICS LIMITED

Post Box No. 3791, Marathahalli Post, Bengaluru - 560 037, India  
Ph. (दूरभाष) : 080-2232 3812, 2232 3811, 2232 3595

No. LCA/HR/TM/46/2312/2023

Date: 30.09.2023

## CERTIFICATE

### TO WHOM SO EVER IT MAY CONCERN

This is to certify that Ms. Geetha Priya C R, 7<sup>th</sup> Semester, BE (Electronics & Communication Engineering), Sri M Visvesvaraya Institute of Technology, Bangalore, has undertaken an Internship in partial fulfillment of her academic requirement at LCA Tejas Division from 31.08.2023 to 30.09.2023.

2. Her conduct during the above training period was Good.
3. Wishing her all the best for future endeavors.

*Artika*  
30/09/23  
(Artika Upadhyay)  
Senior Manager (HR) LCA

पंजीकृत कार्यालय : 15/1, कब्बन रोड, बैंगलूर - 560 001, भारत  
Registered Office : 15/1, Cubbon Road, Bengaluru - 560 001, India

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www.hal-india.com

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**GIRISHREDY B**

**1MV20EC051**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **GIRISHREDDY B (1MV20EC051)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.



Signature of the Internship Coordinator  
**Dr. Sasmita Mohapatra**  
Professor  
Dept. of ECE



Signature of HOD  
**Dr. V. G. Supriya**  
Professor & Head  
Dept. of ECE




PRINCIPAL  
Signature of Principal  
**Prof. Rakesh S.G.**  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsarmanahalli  
International Airport Road, Bangalore-562 157  
Principal  
Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M. Visvesvaraya Institute of Technology  
Bengaluru-562157

**External Viva**


Name of the Examiners

Signature with Date

1. 

 30/5/24

2. 

 30/5/24



## DECLARATION

I **GIRISHREDDY B**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Date:

**GIRISHREDDY B**

**1MV20EC051**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“ADVANCE EMBEDDED AND IoT INTERNSHIP”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*  
**HARSHA D GANGOLLI**  
**1MV20EC052**

*Internship carried out at*  
**SIR MVIT COLLEGE,**  
**BENGALURU-562157**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Mr. Kotresh M**  
Director, Indian TechKeys  
Bengaluru-560038



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**  
**BENGALURU-562157**  
**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION  
ENGINEERING**



**CERTIFICATE**

This is to certify that **HARSHA D GANGOLLI (1MV20EC052)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

  
-----

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

  
-----

Signature of HOD


**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT, Bangalore - 562 157**

**External Viva**

  
-----  
**PRINCIPAL**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnadevarayanagar, Hunsur, Mysore Road**  
**International Airport Road, Bangalore-562 157**

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

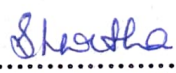
Name of the Examiners

Signature with Date

1. 

 30/5/24

2. 

 30/5/24



# DECLARATION

I **HARSHA D GANGOLLI**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor**, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

HARSHA D GANGOLLI

Date:

1MV20EC052

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“TWITTER DATA ANALYSIS USING SENTIMENT**  
**ANALYSIS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**HARSHIT**

**1MV20EC053**

*Internship carried out at*

**Ideal Educraft Technologies**  
**BTM 2<sup>nd</sup>**  
**STAGE, BENGALURU-**  
**560076**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
**Professor,**  
**Dept. of ECE, Sir MVIT**  
**Bengaluru-562157**



**External Guide:**  
**Hemanth Kumar**  
**Director,**  
**Ideal Educraft Technologies**  
**Bengaluru-560076**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157/2023-2024**

2023-2024

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **HARSHIT (1MV20EC053)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed internship from **Ideal Educraft Technologies** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

Signature of Principal

**Prof. Rakesh S.G.**

Principal

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hebbal, Maranahalli,  
International Airport Road, Bangalore-562157.

**Head of the Department**  
**Electronics & Communications Engineering**  
Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguru**

  
30/12/24

2. **Dr. Shwetha V**

  
30/12/24



## DECLARATION

I **HARSHIT**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra**, **Professor**, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2023-2024.

Place: Bengaluru

Date: 30/05/2024

HARSHIT

1MV20EC053

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree.*

**BACHELOR OF ENGINEERING  
in  
ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Harshitha TA**

**1MV20EC054**

*Internship carried out at*

**VARACONS TECHNOLOGIES  
BENGALURU-560001**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



External Guide:  
**SPOORTHIL. C**  
VARACONS  
TECHNOLOGIES  
Bengaluru-560001

Varcons Technologies Pvt Ltd  
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **HARSHITHA T A(1MV20EC054)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varacon's Technologies** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
K. S. Narayana Murthy Nagar, Hunsur  
International Airport Road, Bangalore

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaragum**

  
30/5/24

2. **Dr. Shwetha V**

  
30/5/24



# CERTIFICATE



**Varcons Technologies Pvt Ltd**

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## CERTIFICATE OF INTERNSHIP

This is to certify that **Harshitha Ta** whose USN is **1MV20EC054**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart patient ward**. As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“APPLICATION DEVELOPMENT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

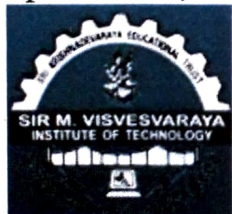
**HIMANSHU S DAS**

**1MV20EC055**

*Internship carried out at*

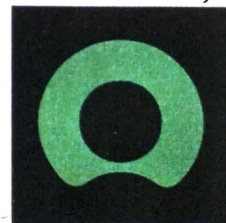
**SERVICENOW PVT LTD  
GOLF LINKS,DOMLUR  
BENGALURU-560071**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT



**Bengaluru-562157**

**External Guide:**  
**Mr. Janmajay Bhakuni**  
Senior support manager,  
Servicenow,



**Bengaluru-560071**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

This is to certify that HIMANSHU SEKHAR DAS(1MV20EC055), a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **SERVICENOW** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadasaravangar, Hynasamaganahalli  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

### External Viva

Name of the Examiners

Signature with Date

1. Dr. P. Sundararaman

30/5/24

2. Dr. Shwetha V

30/5/24



## DECLARATION

I **HIMANSHU SEKHAR DAS**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Date: 08/05/2024

HIAMANSHU S DAS

1MV20EC055

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP  
REPORT ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING  
in  
ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**HIMANSHU SHEKHAR**

**1MV20EC056**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Ltd, Bengaluru-562157



**External Guide:**

**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt  
Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka) DEPARTMENT OF  
ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **HIMANSHU SHEKHAR (1MV20EC056)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship  
Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

Head of the Department  
Electronics & Communications Engineering  
Sir M. VIT, Bangalore 562 157

External Viva

Name of the Examiners

1.

2.

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsarasanahalli  
International Airport Road, Bangalore-562 157  
Signature with Date

30/5/24

30/5/24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Himanshu Shekhar** whose USN is **1MV20EC056**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Hitha S**

**1MV20EC057**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Mr. Chethan**  
Internship Coordinator,  
Varcons Technologies Pvt Ltd,  
Bengaluru-562157

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **Hitha S (1MV20EC057)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mandya District  
International Airport Road, Bangalore-562 157

Signature of Principal  
**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
Electronics & Communications Engineering  
Sir M. VIT Bangalore 562 157

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguru**

  
30/5/24

2. **Dr. Shwetha V**

  
30/5/24



## DECLARATION

I **Hitha S**, student of the VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embody report of my internship work carried out by me under the guidance of **Dr Sasmita Mohapatra**, Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of the requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Hitha S

Date:

1MV20EC057

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“Sentiment Analysis of Lockdown During COVID-19 in USA”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

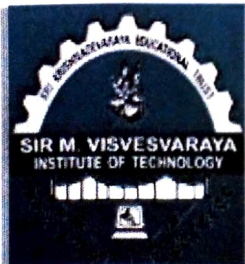
**JAGAN MOHANTY**

**1MV20EC058**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**Halasuru, M.G Road**  
**BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
**Professor,**  
**Dept. of ECE, Sir MVIT**  
**Bengaluru-562157**



**External Guide:**  
**Tejas N.**  
**Director,**  
**Varcons Technologies Pvt Ltd,**  
**Bengaluru-560001**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **JAGAN MOHANTY (1MV20EC058)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
International Airport Road, Bangalore 562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**  
**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundararam**

  
30/5/24

2. **Dr. Shwetha V**

  
30/5/24





**Varcons Technologies Pvt Ltd**

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## CERTIFICATE OF INTERNSHIP

This is to certify that **Jagan Mohanty** whose USN is **1MV20EC058**, has completed their **Machine Learning With Python (Research Based)** In-internship organized and handled by **Varcons Technologies Pvt. Ltd** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Sentiment Analysis Of Lockdown In India During Covid-19 : A Case Study**, As part of the project, They designed the Machine Learning Model, Demonstrated and tested the working of the Model, Prepared a report highlighting its flaws by understanding the design briefs and client Specifications that were provided in the Proposal.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



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18 M G Road, Ulsoor, Bangalore-560001

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“EMBEDDED SYSTEM AND IOT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**KAMYASHREE T**

**1MV20EC059**

*Internship carried out at*

**INVENTERON TECHNOLOGIES  
AND BUSINESS SOLUTIONS LLP  
BENGALURU-560023**

**Internship Coordinator:**

**Dr. Sasmitha Mohapatra**

Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157

**External Guide:**

**Mr. Syed Asim Ahmed**

Co-Founder,

**INVENTERON TECH,**

Bengaluru-560023



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **KAMYASHREE T (1MV20EC059)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INVENTERON TECHNOLOGIES** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmitha Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. Visvesvaraya Institute of Technology, Bengaluru - 562157**

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevaraya Nagar, Tumkur Road, Hunsur, Bengaluru  
International Airport Road, Bangalore-562 157  
**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguru**

  
30/5/24

2. **Dr. Shwetha V**

  
30/5/24





INVENTERON TECHNOLOGIES AND BUSINESS SOLUTIONS LLP

# CERTIFICATE OF INTERNSHIP

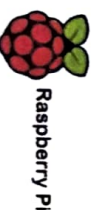
This is to certify that ~~Mr~~/Ms. KANYASHREE . T

has completed internship on EMBEDDED SYSTEMS AND IOT  
from 14 AUG 2023 to 14 SEP 2023 successfully.

We wish this intern all the best for future endeavours.

For Inventeron Technologies And Business Solutions LLP

  
Managing Director



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“ADVANCE EMBEDDED AND IoT INTERNSHIP”**

*Submitted in partial fulfilment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**KARTIK NANDAGAON**

**1MV20EC060**

*Internship carried out at*  
**SIR MVIT COLLEGE,  
BENGALURU-562157**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Mr. Kotresh M**  
Director,  
Indian TechKeys  
Bengaluru- 560038



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

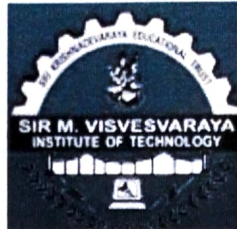
**2023-2024**

**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **KARTIK NANDAGAON (1MV20EC060)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundararam**

  
30/5/24

2. **Dr. Shwetha V**

  
30/5/24



# DECLARATION

I **KARTIK NANDAGAON**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Associate Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

KARTIK NANDAGAON

Date:

1MV20EC060

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING  
in  
ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**KAUSHAL KISHORE**

**1MV20EC061**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

This is to certify that **KAUSHAL KISHORE (1MV20EC061)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt. Ltd.** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsar, Bangalore-562157  
International Airport Road, Bangalore-562157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**  
**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaragum**.....

  
30/05/24

2. **Dr. Shwetha V**.....

  
30/05/24





**Varcons Technologies Pvt Ltd**

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## CERTIFICATE OF INTERNSHIP

This is to certify that **Kaushal Kishore** whose USN is **1MV20EC061**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking Systems Using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**KISHOR K H**

**1MV20EC062**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**

**Halasuru, M.G Road**

**BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sasmita Mohapatra**

**Professor,**

**Dept. of ECE, Sir MVIT**

**Bengaluru-562157**

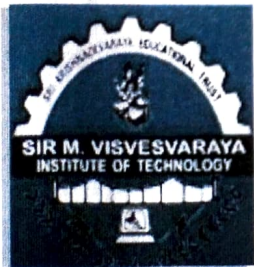
**External Guide:**

**Spoorthi H.C**

**Director,**

**Varcons Technologies Pvt Ltd,**

**Bengaluru-560001**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **KISHOR K H (1MV20EC062)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Head of the Department  
Dept. of ECE  
Electronics & Communications Engineering,  
Sir M VIT Bangalore 562 157

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundararam**

  
30/05/24

2. **Dr. Shwetha V.**

  
30/05/24



## DECLARATION

I **KISHOR K H**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

KISHOR K H

Date:

IMV20EC062

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING  
in  
ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

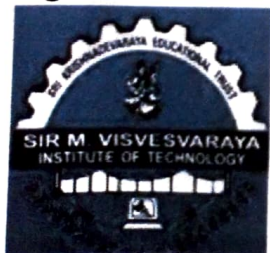
**Krishna Upadhyay**

**1MV20EC063**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr Sasmita Mahapatra**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Mr Chethan**  
Internship Coordinator,  
Varcons Technologies Pvt Ltd,  
Bengaluru-562157

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **Krishna Upadhyay(1MV20EC063)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr Sasmita Mahapatra**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
International Airport Road, Bengaluru-562157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**

Electronics & Communications Engineering

Bengaluru - 562157

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. S. Madanagopal**

  
30/05/24

2. **Dr. Shwetha V.**

  
30/05/24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Krishna Upadhyay** whose USN is **1MV20EC063**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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18 M G Road, Ulsoor, Bangalore-560001

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**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“EMBEDDED SYSTEM AND IOT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**LAKSHITHA G**

**1MV20EC064**

*Internship carried out at*

**INVENTERON TECHNOLOGIES  
AND BUSINESS SOLUTIONS LLP  
BENGALURU-560023**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

**Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157**

**External Guide:**

**Mr. Syed Asim Ahmed**

**Co-Founder,  
INVENTERON TECH,  
Bengaluru-560023**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

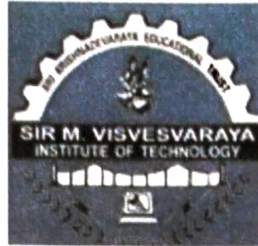
**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

This is to certify that **LAKSHITHA G (1MV20EC064)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INVENTERON TECHNOLOGIES** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

.....  
Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

.....  
Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

.....  
Signature of Principal

**PRINCIPAL**

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsar, Maranahalli  
International Airport Road, Bangalore-562 157  
**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**S - M - VIT, Bangalore 562 157**

### External Viva

Name of the Examiners

Signature with Date

1. .... **Dr. R. Sundaragum** .....

..... **30/05/24** .....

2. .... **Dr. Shwetha V** .....

..... **Shwetha** .....

**30/05/24**





INVENTERON TECHNOLOGIES AND BUSINESS SOLUTIONS LLP

# CERTIFICATE OF INTERNSHIP

This is to certify that ~~Mr~~/Ms. LAKSHITHA . G

has completed internship on EMBEDDED SYSTEMS AND IOT

from 14 AUG 2023 to 14 SEP 2023 successfully.

We wish this intern all the best for future endeavours.

For Inventeron Technologies And Business Solutions LLP

  
Managing Director

Managing Director



[www.inventeron.com](http://www.inventeron.com)

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“EMBEDDED SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Lakshmi S**

**1MV20EC065**

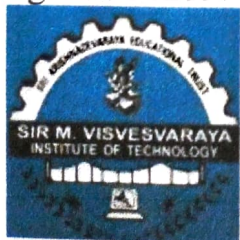
*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**

**Mr Chethan**

Internship Coordinator,  
Varcons Technologies Pvt Ltd,  
Bengaluru-562157

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **Lakshmi S (1MV20EC065)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*Supriya*

*Sulamb*

**PRINCIPAL**

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bangalore-562157

*AE*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562157**

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. R. Sundaresan*

*[Signature]* 30/8/24

2. *Dr. Shwetha V*

*Shwetha* 30/05/24





**Varcons Technologies Pvt Ltd**

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## CERTIFICATE OF INTERNSHIP

This is to certify that **Lakshmi S** whose USN is **1MV20EC065**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart parking system using IOT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON**

**“ADVANCE EMBEDDED AND IoT INTERNSHIP”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING  
in  
ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**LAVANYA P**

**1MV20EC066**

*Internship carried out at*  
**SIR MVIT COLLEGE,  
BENGALURU-562157**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

Associate Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157

**External Guide:**

**Mr. Kotresh M**

Director,

Indian TechKeys

Bengaluru- 560038

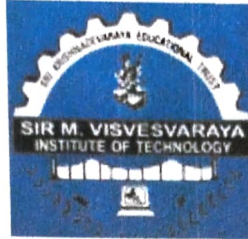


**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
SRI KRISHNADEVARAYA EDUCATIONAL TRUST  
BENGALURU-562157  
2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



## CERTIFICATE

This is to certify that **LAVANYA P (1MV20EC066)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**PRINCIPAL**

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunsarasanahalli

International Airport Road, Bangalore-562 157

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M VT Bangalore 562 157  
External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguna**

  
30/5/24

2. **Dr. Shwetha V**

  
30/5/24



# DECLARATION

I **LAVANYA P**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, **Associate Professor**, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Date: 22/05/2024

*Lavanya P*

LAVANYA P

1MV20EC066

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“ADVANCED EMBEDDED SYSTEM AND IoT  
DESIGN”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**LIKHITH C K**

**1MV20EC067**

*Internship carried out at*

**INDIAN TECH-KEYS**

**BANGALORE-560038**

**INTERNSHIP CO-ORDINATOR:**

**Dr. SHEETAL BAGALI**  
ASSOCIATE PROFESSOR,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**EXTERNAL GUIDE:**

**Mr. KOTRESH M**  
DIRECTOR  
Indian Tech-Keys,  
Baiyappanahalli  
Bengaluru-560068



# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **LIKHITH C K (1MV20EC067)**, a Bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bangalore** has satisfactorily completed Industrial training from **Indian Tech-Keys, Bangalore-560038** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*AC*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

*Supriya*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

*Sulambh*

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bangalore-562

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M. VIT Bangalore 562 157

### External Viva

Name of the Examiners

Signature with Date

1. *Dr. R. Sundararam*

*[Signature]* 30/05/24

2. *Dr. Shwetha V*

*Shwetha* 30/05/24



## **DECLARATION**

I **LIKHITH C K**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali** , Associate Professor, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2023-2024.

**Place: Bangalore**

**Date:30/05/2024**

**LIKHITH C K**

**1MV20EC067**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANASANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT ON**  
**“ADVANCED EMBEDDED SYSTEM AND IoT DESIGN”**  
*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**  
*Submitted by:*

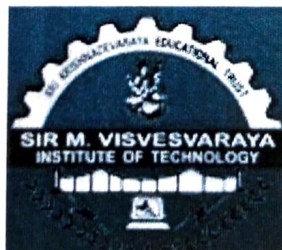
**LIKHITH P**

**1MV20EC068**

*Internship carried out at*  
**INDIAN TECH-KEYS**  
**BANGALORE-560038**

Internal Guide:  
**Dr. SHEETAL BAGALI**  
Associate Professor  
Dept of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Mr.KOTRESH M**  
**DIRECTOR**  
Indian Tech-Keys,  
Bengaluru-560001



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

(Affiliated to Visvesvaraya Technological University, Belgaum, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **LIKHITH P(1MV20EC068)**, a bonafide student of **SIR M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Indian Tech-Keys, Bangalore-560038** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*AC*

Signature of the Guide

**Dr. Sheetal Bagali**

Associate Professor

Department of ECE

*Supriya*

Signature of HOD

**Dr. V.G. Supriya**

Professor & Head

Department of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

*Sulabh*

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnadasanahalli**  
**International Airport Road, Bangalore-562 157**

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. R. Sundaragum*

*[Signature]*  
**30/5/24**

2. *Dr. Shwetha V*

*Sheetal*  
**30/5/24**



# CERTIFICATE FROM THE INDUSTRY



## Indian Tech-Keys

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+91 95385 05796

AICTE Corporate Id: CORPORATE5f869a739a3e81602656883

## TO WHOM IT MAY CONCERN

### THIS IS TO CERTIFY THAT

LIKHITH PADAPATI

Bearing USN 1MV20EC068, Student of Electronics and Communication Engineering, Sir M Visvesvaraya Institute of Technology, Bengaluru has successfully completed Internship at "ITK Innovation Lab", Bengaluru, KA-India during the period from 16-08-2023 to 16-09-2023.

Performance during Internship was excellent in the domain of **Advanced Embedded IoT System Design and Development**. Project during the Internship was demonstrating the desire to learn and critical thinking towards the problem solving in product development for various applications.

Mr. Kotresh Mundrugi  
Director, INDIAN TECH-KEYS

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“INTERNET OF THINGS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**LIKITHA P**

**1MV20EC069**

*Internship carried out at*

**TECHNOFLY SOLUTIONS**

**Bengaluru-560040**

**Internal Guide:**

**Dr. Sheetal Bagali**

**Associate Professor**

**Department of ECE Sir MVIT**

**Bengaluru-562157**

**External Guide:**

**Mr. Abzal Nawaz**

**Trainer**

**Technofly solutions**

**Bengaluru-560040**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



## CERTIFICATE

This is to certify that **LIKITHA P (1MV20EC069)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **TECHNOFLY SOLUTIONS** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Guide

**Dr. Sheetal Bagali**

Associate professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

Signature of Principal

**Prof. Rakesh S.G.**  
Krishnadavary Nagar, Hussamaramanahalli  
International Airport Road, Bangalore-562 157

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguru**

  
30/05/24

2. **Dr. Shwetha V**

  
30/05/24



# CERTIFICATE FROM THE COMPANY

## TechnoFly Solutions

### Internship Certificate

Techno fly

This is to certify that **LIKITHA P**

a student of **Srim M**

**visvesvaraya institute of Technology** has completed **1** months/weeks of Internship  
From **13-08-2023** To **28-09-2023** in **Embedded system** Domain.

We wish you all the best in your future endeavors.

Date : **28/09/23**

For TechnoFly Solutions



TechnoFly Solutions, Vijayanagar, Bangalore - 40.  
Mob.: 9663476586, 9741150102 | www.technofly.in

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“SMART STREET LIGHT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**M B VARALAKSHMI**

**1MV20EC070**

*Internship carried out at*

**VARCONS TECHNOLOGIES**  
**BENGALURU-560001**

**Internal Guide:**

**Guide Name: Sheetal Bagali,**  
**Designation: Associate Professor**  
**Dept of ECE, Sir MVIT**  
**Bengaluru-562157**

**External Guide:**

**Guide Name: Spoorthi C**  
**Designation: Director**  
**Varcons technologies,**  
**Bengaluru-560001**



**Varcons Technologies Pvt Ltd**  
**Communicate. Collaborate. Create**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belgaavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **M B Varalakshmi (1MV20EC070)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons technologies** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Guide

**Sheetal bagali**

Associate Professor

Dept of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

**Head of the Department**  
Dept of ECE  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

**External Viva**

Name of the Examiners

1. **Dr. R. Sundaraguru**

2. **Dr. Shwetha V**

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsarasanahalli  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Signature with Date

  
30/05/24  
30/05/24





**Varcons Technologies Pvt Ltd**

Communicate. Collaborate. Create

## CERTIFICATE OF INTERNSHIP

This is to certify that **M B Varalakshmi** whose USN is **1MV20EC070**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart street light system**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



21/9/2023

18 M G Road, Ulsoor, Bangalore-560001

[www.varconstech.com](http://www.varconstech.com)

[contact@varconstech.com](mailto:contact@varconstech.com)

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“Embedded Systems, Networking & Communication Products”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**MALAKA BHASKAR REDDY**

**1MV20EC072**

*Internship carried out at*

**SPARR ELECTRONICS  
LIMITED**

**BENGALURU-560043**

**Internal Guide:**

**Guide Name: Sheetal Bagali,**  
Designation: Associate Professor  
Dept of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**

**Guide Name: Srinivasan K**  
Designation: Director  
Sparr Electronics,  
Bengaluru-560043



---

**SPARR  
ELECTRONICS  
LIMITED**

---

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belgavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **MALAKA BHASKAR REDDY(1MV20EC072)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Sparr Electronics Limited** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*AC*

Signature of the Guide

**Sheetal bagali**

Associate Professor

Dept of ECE

*Supriya*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

**External Viva**

Name of the Examiners

1. *Dr. R. Sundararam*

2. *Dr. Shwetha V*

*Sulambh*

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevaraya Nagar, Hebbal, Saranahalli,  
International Airport Road, Bangalore-562 157  
**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Signature with Date

*Rakesh S.G.* 30/05/24

*Shwetha* 30/05/24



No. 414A, 7<sup>th</sup> Main, 1<sup>st</sup> Block,  
HRBR Layout, Banaswadi,  
Bangalore - 560 043.

Tel : +91-80-4127 8033  
Tel/Fax : +91-80-4175 1561  
Email : info@sparrl.com  
Web : www.sparrl.com

**SPARR  
ELECTRONICS  
LIMITED**

AN ISO 9001 : 2015 COMPANY

## INTERNSHIP LETTER

This is to certify that **Mr. Malaka Bhaskar Reddy**, a student of Sir M. Visvesvaraya Institute of Technology (Electronics and Communication Engineering), worked as a summer intern in our company for a period from April 6<sup>th</sup> 2023 to May 18<sup>th</sup> 2023.

While with us, he showed a keen interest to learn about the products manufactured and working with it, he has undergone through various departments to understand the manufacturing process, and worked well as part of a team during his tenure.

He deserves all encouragement and we wish him all the best for his future endeavors.

For SPARR ELECTRONICS LIMITED

  
**MOHANDAS UKKANDATH**

Managing Director



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“Stock Sentimental Analysis”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**MANOBRATH DUTTA**

**1MV20EC073**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**

**Halasuru, M.G Road**

**BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

**Associate Professor,**

**Dept. of ECE, Sir MVIT**

**Bengaluru-562157**



**External Guide:**

**Tejas N.**

**Director,**

**Varcons Technologies Pvt Ltd,**

**Bengaluru-560001**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **MANOBRATH DUTTA (1MV20EC073)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering** in **Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*AC*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

*Supriya*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

**Head of Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

*Subash*

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishna Nagar, 2nd Stage, 8th Mile, Hosur Road,  
International Airport Road, Bangalore-562 157

**Signature of Principal**  
**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. R. Sundararaman*

*[Signature]* 30/5/24

2. *Dr. Shwetha V*

*Shwetha*  
30/05/24



## **D E C L A R A T I O N**

I, **MANOBRATH DUTTA** final year student of Electronics and communication Engineering, Sir M. Visvesvaraya Institute Of Technology – 562157 , declare that the Internship has been successfully completed, in “**Varcons Technologies Private Limited**”. This report is submitted in partial fulfillment of the requirements for award of Bachelor Degree in Branch name, during the academic year 2023-2024

Date :21/09/2023

:

Place : Bangalore

USN : 1MV20EC073

NAME : MANOBRATH DUTTA

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“EMBEDDED SYSTEM AND IoT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**MANSI PRIYA**

**1MV20EC074**

*Internship carried out at*

**Take It Smart (OPC) Pvt Ltd**  
**Vijayanagar**  
**BENGALURU-562157**

**Internal Guide:**

**Dr. Sheetal Bagali,**  
Associate Professor  
Dept of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**

**Mallikarjun Kumbar**  
Director,  
Take It Smart(OPC) Pvt Ltd  
Bengaluru-560040



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **MANSI PRIYA (1MV20EC074)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Take It Smart (OPC) Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*[Signature]*

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsar, Hunsarhalli  
International Airport Road, Bangalore-562 157

*[Signature]*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

**Head of the Department**

Electronics & Communications Engineering

VTU, Bangalore - 562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. Saemita Mohapatra*

*[Signature]* 29.5.24

2. *Dr. Harish S.*

*[Signature]* 29.5.24



## DECLARATION

I **MANSI PRIYA**, student of VIII semester **Bachelor of Engineerig**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagail**, **Associate Professor**, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2023-2024.

Place: Bengaluru

MANSI PRIYA

Date: 29.5.24

1MV20EC074

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT**

**ON**

**Smart Parking System using IOT**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**MIHIR KUMAR SHARMA**

**1MV20EC075**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

**Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157**



**External Guide:**

**Spoorthi H.C**

**Director**

**Varcons Technologies Pvt Ltd  
Bengaluru-560001**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **MIHIR KUMAR SHARMA (1MV20EC075)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

**PRINCIPAL**

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaru  
International Airport Road, Bangalore

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. Dr. Saemita Mahapatra

Dr. Saemita Mahapatra  
29.5.24

2. Dr. Harish S.

Dr. Harish S.  
29.5.24



# CERTIFICATE FROM THE INDUSTRY



**Varcons Technologies Pvt Ltd**

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## CERTIFICATE OF INTERNSHIP

This is to certify that **Mihir Kumar Sharma** whose USN is **1MV20EC075**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Automatic Car Parking using Arduino**. As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



[www.varconstech.com](http://www.varconstech.com)

[contact@varconstech.com](mailto:contact@varconstech.com)

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“SKIN DISEASE ANALYSIS AND TREATMENT SUGGESTIONS  
USING IMAGE PROCESSING AND ANDROID APPLICATION”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**GEETHIKA SINGH.M**

**1MV20EC076**

*Internship carried out at*

**INDIAN TECH-KEYS**

**BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

Associate Professor,

Dept of ECE, Sir MVIT

Bengaluru-562157

**External Guide:**

**Guide Name: Kotresh.M**

Designation: Director

Indian tech-keys

Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **GeethikaSingh.M (1MV20EC076)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons technologies** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Coordinator

**Dr. Sheetal Bagali**

Associate professor

Dept of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept of ECE

PRINCIPAL

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunasamaranahalli  
Internal Circle, Tumkur Road, Bengaluru-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

**External Viva**

Name of the Examiners

1. **Dr. Samita Mohapatra**

2. **Dr. Harish S.**

Signature with Date

**Samita Mohapatra** 29.5.24

**SH** 29.5.24





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## TO WHOM IT MAY CONCERN

THIS IS TO CERTIFY THAT

MITAYI SAIGEETHIKA SINGH

Bearing USN 1MV20EC076, Student of Electronics and Communication Engineering, Sir M Visvesvaraya Institute of Technology, Bengaluru has successfully completed Internship at “ITK Innovation Lab”, Bengaluru, KA-India during the period from 16-08-2023 to 16-09-2023.

Performance during Internship was excellent in the domain of **Advanced Embedded IoT System Design and Development**. Project during the Internship was demonstrating the desire to learn and critical thinking towards the problem solving in product development for various applications.

Mr.Kotresh Mundrugi  
Director,INDIAN TECH-KEYS

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“OVERVIEW OF NAVAL SYSTEMS (SONAR AND  
COMMUNICATION SYSTEM) - SBU”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**MOHITH G S**

**1MV20EC077**

*Internship carried out at*

**BHARAT ELECTRONICS LIMITED**

**BENGALURU-560013**

**INTERNSHIP CO-ORDINATOR:**

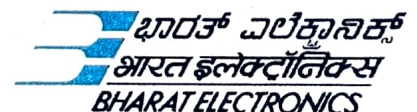
**Dr. SUPRIYA V.G.**  
PROFESSOR & Head,  
Dept. of ECE, Sir MVIT

**Dr. SHEETAL BAGALI**  
ASSOCIATE PROFESSOR,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**EXTERNAL GUIDE:**

**Mr. RANGASWAMY. D**  
MANAGER (HR/NS)  
BEL, JALAHALLI



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU**

**2023-2024**



# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **MOHITH G S (1MV20EC077)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **BHARAT ELECTRONICS LIMITED, BENGALURU-560013** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*AC* 25/4/25

*Supriya*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

**Head of the Department**  
Dept. of ECE  
Electronics & Communications Engineering  
A VTU Bangalore - 560

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

*Sul*

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunsarayanahalli  
International Airport Road, Bangalore-562 157

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. Saumita Mohapatra*

*Mohapatra* 29.5.24

2. *Dr. Harish S.*

*HS* 29.5.24



## **DECLARATION**

I **MOHITH G S**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, **Associate Professor**, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bengaluru**

**Date: 29/05/2024**



**MOHITH G S**

**1MV20EC077**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“SMART PATIENT WARD”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**MONIKA P**

**1MV20EC078**

*Internship carried out at*

**VARCONS**  
**TECHNOLOGIES**  
**BENGALURU-560001**

**Internal Guide:**

**Dr. Sheetal Bagali**

Associate Professor  
Dept of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**

**Spoorthi C**

Director  
Varcons technologies,  
Bengaluru-560001



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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**  
**2023-2024**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belgavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **Monika P (1MV20EC078)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons technologies** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Guide

**Dr. Sheetal bagali**

Associate Professor

Dept of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

PRINCIPAL

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunsur, Mysore  
Internal Use Only Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. Samita Mohapatra**

2. **Dr. Harish S.**

**Dr. Samita Mohapatra**  
29.5.24

**Dr. Harish S.**  
29.5.24





**Varcons Technologies Pvt Ltd**

Communicate. Collaborate. Create

## CERTIFICATE OF INTERNSHIP

This is to certify that **Monika P** whose USN is **1MV20EC078**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart patient ward using iot**. As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



18 M G Road, Ulsoor, Bangalore-560001

[www.varconstech.com](http://www.varconstech.com)

[contact@varconstech.com](mailto:contact@varconstech.com)

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“NAVIAGTION AND STABILIZATION”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**MONISH GOWDA NS**

**1MV20EC079**

*Internship carried out at*

**BHARAT ELECTRONICS LIMITED**

**BENGALURU-560013**

**INTERNSHIP CO-ORDINATOR:**

**Dr. SHEETAL BAGALI**  
ASSOCIATE PROFESSOR,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**EXTERNAL GUIDE:**

**Mr. HS RAGHAVA**  
MANAGER (HR/PDIC)  
BEL, JALAHALLI



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **MONISH GOWDA NS (1MV20EC079)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **BHARAT ELECTRONICS LIMITED, BENGALURU-560013** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
BENGALURU-562157

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore-562157  
International Prof. Rakesh S.G.

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

1. **Dr. Samita Mahapatra**

2. **Dr. Harish S.**

Signature with Date

**Dr. Samita Mahapatra**  
29.5.24

**Dr. Harish S.**  
29.5.24



## **DECLARATION**

I **MONISH GOWDA NS**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, Associate Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bengaluru**

**Date:**

**MONISH GOWDA NS**

**1MV20EC079**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“EMBEDDED SYSTEMS AND INTERNET OF THINGS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**MONISH M**

**1MV20EC080**

*Internship carried out at*

**KARUNADU TECHNOLOGIES Pvt Ltd**

**BENGALURU-560090**

**INTERNSHIP CO-ORDINATOR:**

**Dr. SHEETAL BAGALI**  
**ASSOCIATE PROFESSOR,**  
**Dept. of ECE, Sir MVIT**  
**Bengaluru-562157**

**EXTERNAL GUIDE:**

**Mr. HARISH N**  
**MANAGER**  
**Karunadu Technologies**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **MONISH M (1MV20EC080)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **KARUNADU TECHNOLOGIES PRIVATE LIMITED, BENGALURU-560013** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*AC* 25/4/24

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

*[Signature]*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

*[Signature]*

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-560013  
Internship Coordinator: Dr. Sheetal Bagali  
Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**  
**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. Samita Mohapatra*

*[Signature]* 29/5/24

2. *Dr. Harish S.*

*[Signature]* 29/5/24



## **DECLARATION**

I **MONISH M**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies a report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali, Associate Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bengaluru**

**Date:**

**MONISH M**

**1MV20EC080**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“SURFACE MOUNT TECHNOLOGY”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**NACHIKETH K V**

**1MV20EC081**

*Internship carried out at*

**SUPRAJIT ENGINEERING LIMITED**

**BENGALURU-561203**

**INTERNSHIP CO-ORDINATORS:**

**Dr. SHEETAL BAGALI**  
**ASSOCIATE PROFESSOR,**  
**Dept. of ECE, Sir MVIT**  
**Bengaluru-562157**

**Dr. V.G. SUPRIYA**  
**HEAD OF DEPARTMENT**  
**Dept. of ECE, Sir MVIT**  
**Bengaluru-562157**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **NACHIKETH K V (1MV20EC081)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **SUPRAJIT ENGINEERING LIMITED, BENGALURU-561203** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineer**  
**Sir M VIT Bengaluru 562**

**External Viva**

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsarasanahalli  
International Airport Road, Bengaluru-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1. **Dr. Sasmitha Mahapatra**

**Dr. Sasmitha Mahapatra**  
**29.5.24**

2. **Dr. Harish S.**

**Dr. Harish S.**  
**29.5.24**



## **DECLARATION**

I **NACHIKETH K V**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, **Associate Professor**, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2023-2024.

**Place: Bengaluru**

**Date:**

**NACHIKETH K V**

**1MV20EC081**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“OVERVIEW OF ELECTRONIC WARFARE AND  
AVIONICS (EW&A)”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**NAVNEET KRISHNA**

**1MV20EC082**

*Internship carried out at*

**BHARAT ELECTRONICS LIMITED**

**BENGALURU-560013**

**INTERNSHIP CO-ORDINATORS:**

**EXTERNAL GUIDE:**

**Dr. SHEETAL BAGALI**  
ASSOCIATE PROFESSOR,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**Dr. V. G. SUPRIYA**  
PROFESSOR & HEAD  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**Mrs. BINEETHA**  
MANAGER (EW&A)  
BEL, JALAHALLI



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **NAVNEET KRISHNA (1MV20EC082)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **BHARAT ELECTRONICS LIMITED, BENGALURU-560013** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishna Deva Wodegar, Hiranahalli  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M. VIT Bangalore 562 157

### External Viva

Name of the Examiners

Signature with Date

1. Dr. Saumita Mohapatra

Saumita Mohapatra  
29.5.24

2. Dr. Harish S.

Harish S.  
29.5.24



## **DECLARATION**

I **NAVNEET KRISHNA**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali** , Associate Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bengaluru**

**NAVNEET KRISHNA**

**Date:**

**1MV20EC082**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

JNANASANGAMA, BELAGAVI – 590 018

**INTERNSHIP  
REPORTON****“ADVANCED EMBEDDED SYSTEM AND IoT DESIGN”***Submitted in partial fulfillment of the requirements for the award of the degree***BACHELOR OF ENGINEERING**

in

**ELECTRONICS & COMMUNICATION ENGINEERING***Submitted by:***NINGANAGOUDA G THIMMANAYKARA****1MV20EC083***Internship carried out at*  
**INDIAN TECH-KEYS  
BANGALORE-560038**

Internal Guide:

**Dr. SHEETAL BAGALI**

Associate Professor

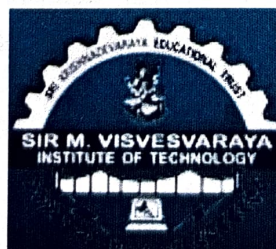
Dept of ECE, Sir MVIT

Bengaluru-562157

External Guide:

**Mr.KOTRESH M**

DIRECTOR

Indian Tech-Keys,  
Bengaluru-560001**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

BENGALURU-562157

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BENGALURU-562157


(Affiliated to Visvesvaraya Technological University, Belgaum, Karnataka)


## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

This is to certify that **NINGANAGOUDA G THIMMANAYKARA(1MV20EC083)**, a bonafide student of **SIR M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Indian Tech-Keys, Bangalore-560038** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2022 – 2023**.

  
-----  
Signature of the Guide  
**Dr. Sheetal Bagali**  
Associate Professor  
Department of ECE

  
-----  
Signature of HOD  
**Dr. V.G. Supriya**  
Professor & Head  
Department of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

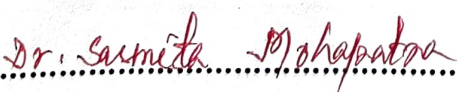
  
-----  
**PRINCIPAL**  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnaiah Road, Bangalore-562 157  
International Airport Road, Bangalore-562 157  
Signature of Principal  
**Prof. Rakesh S.G.**


**Principal**  
**Sir MVIT, Bengaluru**

### External Viva

Name of the Examiners

Signature with Date

1. 

  
29.5.24

2. 

  
28.5.24



## CERTIFICATE FROM THE INDUSTRY

**Indian Tech-Keys****Born To Innovate**

# 11, R M N Towers, Near SVR Metro Station, Bengaluru-560 038.

www.indiantechkeys.com

+91 95385 05796

AICTE Corporate Id: CORPORATE51869a739a3c81602656883

**TO WHOM IT MAY CONCERN**

THIS IS TO CERTIFY THAT

**NINGANAGOUDA G THIMMANAYKARA**

Bearing USN **1MV20EC083**, Student of Electronics and Communication Engineering, Sir M Visvesvaraya Institute of Technology, Bengaluru has successfully completed Internship at “ITK Innovation Lab”, Bengaluru, KA-India during the period from **16-08-2023** to **16-09-2023**.

Performance during Internship was excellent in the domain of **Advanced Embedded IoT System Design and Development**. Project during the Internship was demonstrating the desire to learn and critical thinking towards the problem solving in product development for various applications.

Mr.Kotresh Mundrugi  
Director,INDIAN TECH-KEYS

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“OVERVIEW OF NAVAL SYSTEMS (SONAR AND  
COMMUNICATION SYSTEM) - SBU”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**PAVAN TEJ PS**

**1MV20EC085**

*Internship carried out at*

**BHARAT ELECTRONICS LIMITED**

**BENGALURU-560013**

**INTERNSHIP CO-ORDINATOR:**

**Dr. SHEETAL BAGALI**  
ASSOCIATE PROFESSOR,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**EXTERNAL GUIDE:**

**Mr. RANGASWAMY. D**  
MANAGER (HR/NS)  
BEL, JALAHALLI



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **PAVAN TEJ PS (1MV20EC085)**, a Bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **BHARAT ELECTRONICS LIMITED, BENGALURU-560013** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
Bengaluru - 562 157

**External Viva**

Name of the Examiners

Signature with Date

1. Dr. Saemita Mohapatra

[Signature]

2. Dr. Harish S.

[Signature]  
29/05/24



## **DECLARATION**

I **PAVAN TEJ PS**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali** , Associate Professor, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bengaluru**

**Date:**

**PAVAN TEJ PS**

**1MV20EC085**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“ADVANCED EMBEDDED AND IOT INTERNSHIP”**

*Submitted in partial fulfilment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*  
**P VISHAL KAUSHIK**  
**1MV20EC086**

*Internship carried out at –*  
**SIR MVIT COLLEGE,**  
**BENGALURU-562157**

**Internship Coordinator:**  
**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Mr. Kotresh M**  
Director,  
Indian TechKeys  
Bengaluru- 560038



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**  
**2023-2024**

**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



## CERTIFICATE

This is to certify that **P VISHAL KAUSHIK (1MV20EC086)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

**External Viva**

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
Internal Road, Bengaluru-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1. Dr. R. Sundaraguru

  
29/15/24

2. Manjunatha Siddappa

  
29/15/24



## DECLARATION

I **P VISHAL KAUSHIK**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

P VISHAL KAUSHIK

Date:

1MV20EC086

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**PIYUSH SINGH**

**1MV20EC087**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **PIYUSH SINGH (1MV20EC087)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*Handwritten signature of Dr. Sheetal Bagali*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

*Handwritten signature of Dr. V. G. Supriya*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

*Handwritten signature of Prof. Rakesh S.G.*

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport, Bengaluru-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**

Electronics & Communications Engineering

Sir M. VIT, Bangalore 562 157

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. R. Sundaragun*.....

*Handwritten signature*.....**29/5/24**

2. *Kanjunatha Siddappa*.....

*Handwritten signature*.....**29/5/24**



## DECLARATION

I **PIYUSH SINGH**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali, Associate Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

PIYUSH SINGH

Date:

1MV20EC087

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**PRACHI SAWARN**  
**1MV20EC088**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**Halasuru, M.G Road**  
**BENGALURU-562157**

**Internal Guide:**

**Dr. Sheetal Bagali,**  
Associate Professor,  
Dept of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**

**Spoorthi H.C**  
Director,  
Varcons Technologies  
Pvt. Ltd.  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

2023-2024

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **PRACHI SAWARN (1MV20EC088)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Guide

**Sheetal Bagali**

Associate Professor

Dept of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. Visvesvaraya Institute of Technology**  
**Bengaluru - 562 157**

Signature of Principal

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnadevarayanagar, Hunsur, Mysore**  
**International Airport Road, Bengaluru - 562 157**

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sankaragun**

**29/5/24**

2. **Manjunatha Siddappa**

**29/5/24**



## DECLARATION

I **PRACHI SAWARN**, student of VIII semester **Bachelor of Engineerig**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagail**, Associate Professor **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

PRACHI SAWARN

Date:

1MV20EC088

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT**  
**ON**

**Smart Parking System using IOT**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**PRANAV RAJ**

**1MV20EC089**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**BENGALURU-560001**

Internship Coordinator:

**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:

**Spoorthi H.C**  
Director  
Varcons Technologies Pvt Ltd  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**



## CERTIFICATE

This is to certify that **PRANAV RAJ (1MV20EC089)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

Head of the Department  
Electronics & Communications Engineering  
Sir M. VIT, Bangalore

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Huseasamaranahalli  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaragum**

  
29/5/24

2. **Manjunatha Siddappa**

  
29/5/24





**Varcons Technologies Pvt Ltd**  
Communicate. Collaborate. Create

## CERTIFICATE OF INTERNSHIP

This is to certify that **Pranav Raj** whose USN is **1MV20EC089**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



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18 M G Road, Ulsoor, Bangalore-560001

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[contact@varconstech.com](mailto:contact@varconstech.com)

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT**

**ON**

**Smart Parking System using IOT**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**PRIYANSHU HARSHA**

**1MV20EC090**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
BENGALURU-560001**

Internship Coordinator:

**Dr. Sheetal Bagali**

Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:

**Spoorthi H.C**

Director  
Varcons Technologies Pvt Ltd  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **PRIYANSHU HARSHA (1MV20EC090)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

**External Viva**

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Munasamaranahalli  
International Airport Road, Bangalore-562-157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1. **Dr. R. S. Sumanagum**.....

  
29/5/24

2. **Manjunatha Siddappa**.....

  
29/5/24





**Varcons Technologies Pvt Ltd**

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## CERTIFICATE OF INTERNSHIP

This is to certify that **Priyanshu Harsha** whose USN is **1MV20EC090**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**. As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



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[contact@varconstech.com](mailto:contact@varconstech.com)

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING  
in  
ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**PRIYANSHU RAJ**

**1MV20EC091**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sheetal Bagali**  
Associate Professor ,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **PRIYANSHU RAJ (1MV20EC091)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**PRINCIPAL**

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya Nagar, Hunasamaranahalli  
International Airport Road, Bengaluru - 562157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
Electronics & Communications Engineering  
Bengaluru - 562157

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaresan**

  
29.12.24

2. **Manjunath Siddappa**

  
29.12.24



## DECLARATION

I **PRIYANSHU RAJ**, student of VIII semester **Bachelor of Engineering**, Department of Electronics & Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **D r . Sheetal Bagali, Associate Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

PRIYANSHU RAJ

Date:

1MV20EC091

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT**

**ON**

**Smart Parking System using IOT**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**RAGHVENDRA KUMAR**

**1MV20EC092**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
BENGALURU-560001**

Internship Coordinator:

**Dr. SHEETAL BAGALI**

Associate Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157

External Guide:

**Spoorthi H.C**

Director

**Varcons Technologies Pvt Ltd**

**Bengaluru-560001**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**


**2023-2024**


**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

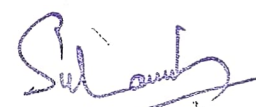


**CERTIFICATE**

This is to certify that **RAGHVENDRA KUMAR (1MV20EC092)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

  
-----  
Signature of the Internship Coordinator  
**Dr. SHEETAL BAGALI**  
Associate Professor  
Dept. of ECE

  
-----  
Signature of HOD  
**Dr. V. G. Supriya**  
Professor & Head  
Dept. of ECE

  
-----  
PRINCIPAL  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hosangamahalalli  
International Airport Road, Bangalore-562 157  
Signature of Principal  
**Prof. Rakesh S.G.**  
Principal  
Sir MVIT, Bengaluru

**Head of the Department**  
Electronics & Communications Engineering  
SIR M. VIT - Bangalore - 562 157

**External Viva**

Name of the Examiners

Signature with Date

1.  .....

 .....

2.  .....

 .....





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Raghvendra Kumar** whose USN is **1MV20EC092**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“HUMAN DETECTION USING FMCW ”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**RAJRAJESWARI R**

**1MV20EC093**

*Internship carried out at*

**ADVITIYA R&S LABS**

**Vidyaranyapur**

**Bengaluru-560097**

*A*  
**Internal Guide:**

**Dr. SHEETAL BAGALI**

**Associate Professor**

**Dept of ECE, Sir MVIT**

**Bengaluru-562157**

**External Guide:**

**PAVAN ATTAVANE**

**Director**

**Advitiya R&D Labs**

**Bengaluru-560097**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **Rajrajeswari R (1MV20EC093)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Advitiya R&D Labs** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Guide

**Dr. Sheetal Bagali**

Associate Professor

Dept of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsamaranahalli  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguru**.....

29/5/24

2. **Manjunatha Siddappa**.....

29/5/24



## DECLARATION

I **Rajrajeswari R**, student of VIII semester **Bachelor of Engineering** , Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Prof. Pavan Attavane, Director, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Date: **29-05-2024**

  
RAJRAJESWARI R  
1MV20EC093

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“Smart Parking System using IOT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Rajshree Singh**  
**1MV20EC094**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**Halasuru, M.G Road**  
**BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Ltd, Bengaluru-562157

**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **Rajshree Singh (1MV20EC094)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*Signature of Dr. Sheetal Bagali*

Signature of the Internship Coordinator  
**Dr. Sheetal Bagali**  
Associate Professor  
Dept. of ECE

*Signature of Dr. V. G. Supriya*

Signature of HOD  
**Dr. V. G. Supriya**  
Professor & Head  
Dept. of ECE

*Signature of Prof. Rakesh S.G.*

**PRINCIPAL**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnaswamy Nagar, Hunsur, Bangalore-562157  
Signature of Principal  
**Prof. Rakesh S.G.**  
Principal  
Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundararaman**.....

*Signature of Dr. R. Sundararaman*  
.....**29.10.24**

2. **Manjunatha Siddappa**.....

*Signature of Manjunatha Siddappa*  
.....**29/10/24**



# INTERNSHIP OFFER LETTER



A handwritten signature in blue ink, consisting of a stylized 'V' followed by a horizontal line and a vertical stroke.

Varcons Technologies Pvt. Ltd.

Date: 11<sup>th</sup> August, 2023

Name: **Rajshree Singh**

USN: **1MV20EC094**

Placement ID: **TIEES0908033**

**Dear Student,**

We would like to congratulate you on being selected for the **Embedded Systems with IOT Internship** position with **Varcons Technologies**, effective Start Date **11<sup>th</sup> August, 2023**. All of us are excited about this opportunity provided to you!

This internship is viewed as being an educational opportunity for you, rather than a part-time job. As such, your internship will include training/orientation and focus primarily on learning and developing new skills and gaining a deeper understanding of concepts of **Embedded Systems with IOT** through hands-on application of the knowledge you learn while you train with the senior developers. You will be bound to follow the rules and regulations of the company during your internship duration.

Again, congratulations and we look forward to working with you!

Sincerely,

**Spoorthi H C**

**Director**

**VARCONS TECHNOLOGIES**

**213, 2<sup>nd</sup> Floor, 18 M G Road, Ulsoor,**

**Bangalore-560001**

## DECLARATION

I **Rajshree Singh**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, Associate Professor, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2023-2024.

Place: Bengaluru

Rajshree Singh

Date:

1MV20EC094

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**  
**ON**  
**“ADVANCED EMBEDDED SYSTEM AND IoT**  
**DESIGN”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**REETHU K L**

**1MV20EC095**

*Internship carried out at*

**INDIAN TECH-KEYS**  
**BANGALORE-560038**

**INTERNSHIP CO-ORDINATOR:**

**Dr. SHEETAL BAGALI**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**EXTERNAL GUIDE:**

**Mr. KOTRESH M**  
Director  
Indian Tech-Keys,  
Baiyappanahalli  
Bengaluru-560068



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU**  
**2023-2024**



# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **REETHU K L (1MV20EC095)**, a Bonafide student of Sir M. Visvesvaraya Institute of Technology, Bangalore has satisfactorily completed Industrial training from **Indian Tech-Keys, Bangalore-560038** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**  
Associate Professor  
Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**  
Professor & Head  
Dept. of ECE

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsarasanahalli  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**  
Principal  
Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sandeep Kumar**

  
29/5/24

2. **Manjunatha Siddappa**

  
29/5/24

## **DECLARATION**

I **REETHU K L**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali** , Associate Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bangalore**

**REETHUKL**

**Date:**

**1MV20EC095**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT**

**ON**

**Smart Parking System using IOT**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**RISHABH SHARMA**

**1MV20EC096**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**

**BENGALURU-560001**

Internship Coordinator:

**Dr. SHEETAL BAGALI**

Associate Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157

External Guide:

**Spoorthi H.C**

Director

**Varcons Technologies Pvt Ltd**

**Bengaluru-560001**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **RISHABH SHARMA (1MV20EC096)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. SHEETAL BAGALI**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

Head of the Department  
Electronics & Communications Engineering  
S - M VIT Bangalore 562 157

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya College, Channarayana Halli  
International Airport Road, Bangalore-562 157  
**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguru**.....

  
29/5/24

2. **Manjunatha Siddappa**.....

  
29/6/24

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**RITESH KUMAR RAI**

**1MV20EC097**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

**Associate Professor,**

**Dept. of ECE, Sir MVIT**

**Bengaluru-562157**

**External Guide:**

**Spoorthi H.C**

**Director,**

**Varcons Technologies Pvt Ltd,**

**Bengaluru-560001**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

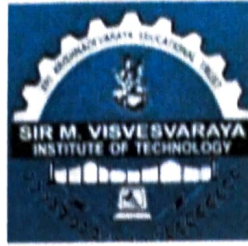
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **RITESH KUMAR RAI (1MV20EC097)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*[Signature]*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

*[Signature]*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

*[Signature]*

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S. G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

**External Viva**

Name of the Examiners

1. .... **Dr. R. Sundaragurus** .....

2. .... **Manjunatha Siddappa** .....

Signature with Date

*[Signature]* 29/5/24

*[Signature]* 28/5/24



## DECLARATION

I **RITESH KUMAR RAI**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, Associate Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bengaluru**

**RITESH KUMAR RAI**

Date:

1MV20EC097

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT**

**ON**

**Smart Parking System using IOT**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**RITIK KUMAR DUBEY**

**1MV20EC098**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
BENGALURU-560001**

Internship Coordinator:

**Dr. Sheetal Bagali**

Associate Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157

External Guide:

**Spoorthi H.C**

Director

Varcons Technologies Pvt Ltd

Bengaluru-560001



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

BENGALURU-562157

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **RITIK KUMAR DUBEY (1MV20EC098)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering** in **Electronics and Communication Engineering** and submitted this report during the academic year **2023-2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**  
Associate Professor  
Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**  
Professor & Head  
Dept. of ECE

Signature of Principal

**Prof. Rakesh S.G.**  
Principal  
Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

**External Viva**

Name of the Examiners

1. **Dr. R. Sundaraguru**
2. **Manjunatha Siddappa**

Signature with Date

Signature with Date  
29/5/24  
28/5/24





**Varcons Technologies Pvt Ltd**

Communicate. Collaborate. Create

## CERTIFICATE OF INTERNSHIP

This is to certify that **Ritik Kumar Dubey** whose USN is **1MV20EC098**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



213, 2<sup>nd</sup> Floor  
18 M G Road, Ulsoor, Bangalore-560001

[www.varconstech.com](http://www.varconstech.com)

[contact@varconstech.com](mailto:contact@varconstech.com)

This certificate was generated using [CERTIEFY.COM](https://certiefy.com)

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“EMBEDDED SYSTEMS (Smart Parking System using IOT)”**

*Submitted in partial fulfillment of the requirements for the award of the degree.*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Rituraj Singh Rajawat**

**1MV20EC099**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**

**Halasuru, M.G Road**

**BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

**Associate Professor,**

**Dept. of ECE, Sir MVIT**

**Bengaluru-562157**

**External Guide:**

**Spoorthi H.C**

**Director,**

**Varcons Technologies Pvt Ltd,**

**Bengaluru-560001**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**



## **CERTIFICATE**

This is to certify that **Rituraj Singh Rajawat (1MV20EC099)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator  
**Dr. Sheetal Bagali**  
Associate Professor  
Dept. of ECE

Signature of HOD  
**Dr. V. G. Supriya**  
Professor & Head  
Dept. of ECE

Signature of Principal  
**Prof. Rakesh S.G.**  
Principal  
Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. Visvesvaraya Institute of Technology**  
**Bengaluru - 562157**  
**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaragum**

  
29/5/24

2. **Mangunatha Siddappa**

  
29/5/24



## DECLARATION

I **Rituraj Singh Rajawat**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, Associate Professor, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2023-2024.

Place: Bengaluru

Date:

Rituraj singh rajawat

1MV20EC099

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON**

**“Sentiment Analysis of Lockdown During COVID-19 in USA”**

*Submitted in partial fulfillment of the requirements for the award of the degree.*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Rohit Anand**

**1MV20EC100**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

Associate Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157

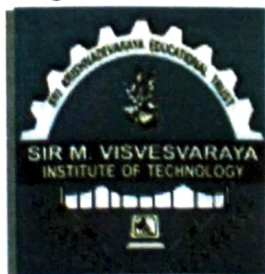
**External Guide:**

**Spoorthi H.C**

Director,

Varcons Technologies Pvt Ltd,

Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **Rohit Anand (1MV20EC100)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

-----  
*Dr. Sheetal Bagali*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

-----  
*Dr. V. G. Supriya*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

-----  
*Prof. Rakesh S.G.*

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Hosur Road,  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. R. Sundaraguru*

-----  
*[Signature]* 29/8/24

2. *Manjunatha Siddappa*

-----  
*[Signature]* 28/8/24



# DECLARATION

I **Rohit Anand**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali, Associate Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Date:

Rohit Anand

1MV20EC100

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“OVERVIEW OF ELECTRONIC WARFARE AND  
AVIONICS (EW&A)”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**ROHITH G**

**1MV20EC101**

*Internship carried out at*

**BHARAT ELECTRONICS LIMITED**

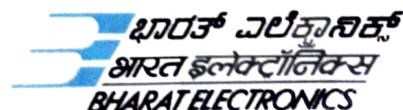
**BENGALURU-560013**

**INTERNSHIP CO-ORDINATOR:**

**Dr. SHEETAL BAGALI**  
ASSOCIATE PROFESSOR,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**EXTERNAL GUIDE:**

**Mrs. BINEETHA**  
MANAGER (EW&A)  
BEL, JALAHALLI



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **ROHITH G (1MV20EC101)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **BHARAT ELECTRONICS LIMITED, BENGALURU-560013** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bengaluru-562157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaragurun**

  
29/5/23

2. **Kanjimath Sildappa**

  
28/5/23



# **DECLARATION**

I **ROHITH G**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, **Associate Professor**, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bengaluru**

**Date: 29/5/24**

**ROHITH G**

**1MV20EC101**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“Stock Sentimental Analysis”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**  
*Submitted by:*

**SATYAM**

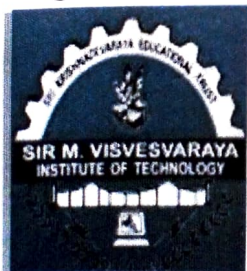
**1MV20EC102**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**Halasuru, M.G Road**  
**BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Tejas N.**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **SATYAM (1MV20EC102)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*AC*

*Supriya*

*Sulambh*

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
Internship Report - 2023-24

Signature of the Internship Coordinator

Signature of HOD

Signature of Principal

**Dr. Sasmita Mohapatra**

**Dr. V. G. Supriya**

**Prof. Rakesh S.G.**

Professor

Professor & Head

Principal

Dept. of ECE

Dept. of ECE

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. R. Sundaragiri*

*[Signature]* 29/5/24

2. *Manjunath Siddappa*

*[Signature]* 29/5/24



## DECLARATION

I, **SATYAM** final year student of Electronics and communication Engineering, Sir M. Visvesvaraya Institute Of Technology – 562157 , declare that the Internship has been successfully completed, in “**Varcons Technologies Private Limited**”. This report is submitted in partial fulfillment of the requirements for award of Bachelor Degree in Branch name, during the academic year 2023-2024

Date :21/09/2023

:

Place : Bangalore

USN : 1MV20EC102

NAME : SATYAM

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“SMART STREET LIGHT SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**SHALINI K**

**1MV20EC103**

*Internship carried out at*

**VARCONS TECHNOLOGIES**  
**BENGALURU-560001**

Internship Coordinator:  
**Dr. Sheetal Bagali**  
Associate Professor,  
Dept of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Guide Name: Spoorthi C**  
Designation: Director  
Varcons technologies,  
Bengaluru-560001



**varcons**

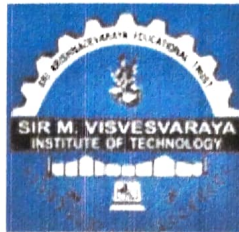
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **Shalini K (1MV20EC103)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons technologies** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Coordinator

**Dr. Sheetal Bagali**

Associate professor

Dept of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

PRINCIPAL

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishna Nagar, Bengaluru-562157  
Internship Report, 2023-2024

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguru**

  
29/5/24

2. **Manjunatha Siddappa**

  
29/5/24





**Varcons Technologies Pvt Ltd**

Communicate. Collaborate. Create

## CERTIFICATE OF INTERNSHIP

This is to certify that **Shalini K** whose USN is **1MV20EC103**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **smart street light system**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



213

18 M G Road, Ulsoor, Bangalore-560001

[www.varconstech.com](http://www.varconstech.com)

[contact@varconstech.com](mailto:contact@varconstech.com)

This certificate was generated using [CERTIFY.COM](#)

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**SHANTANU KUMAR**

**1MV20EC104**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **SHANTANU KUMAR (1MV20EC104)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering** in **Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

-----  
Signature of the Internship Coordinator

**Dr. Sheetal Bagali**  
Associate Professor  
Dept. of ECE

-----  
Signature of HOD

**Dr. V. G. Supriya**  
Professor & Head  
Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

-----  
Signature of Principal

**PRINCIPAL**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnadevarayanagar, Hunsur, Mysore Road**  
**International Airport Road, Bangalore-562 157**

**Prof. Rakesh S.G.**  
Principal  
Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaragum**

**29/15/24**

2. **Manjunatha Siddappa**

**21/1/24**



## DECLARATION

I **SHANTANU KUMAR**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, Associate Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Shantanu Kumar

Date:

1MV20EC104

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

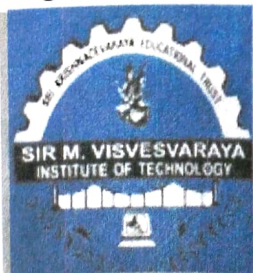
**SHANTANU KUMAR**  
**1MV20EC104**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**Halasuru, M.G Road**  
**BENGALURU-560001**

Internship Coordinator:  
**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **SHANTANU KUMAR (1MV20EC104)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

-----  
Signature of the Internship Coordinator

**Dr. Sheetal Bagali**  
Associate Professor  
Dept. of ECE

-----  
Signature of HOD

**Dr. V. G. Supriya**  
Professor & Head  
Dept. of ECE

-----  
Signature of Principal

**PRINCIPAL**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunsur, Mysore Road,  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**  
Principal  
Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaragum**

**29/5/24**

2. **Manjunatha Siddappa**

**28/5/24**



## DECLARATION

I **SHANTANU KUMAR**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, Associate Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Shantanu Kumar

Date:

1MV20EC104

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“Stock Sentimental Analysis”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**SHANTANU SINGH**

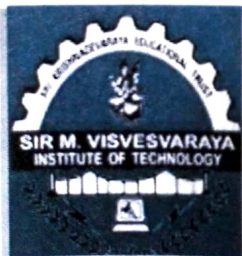
**1MV20EC105**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**

**Tejas N.**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **SHANTANU SINGH (1MV20EC105)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishna Nagar, Bangalore  
International Airport Road, Bangalore

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of Department  
Electronics & Communications Engineering  
Sir M. VIT Bangalore 562 157

**External Viva**

Name of the Examiners

Signature with Date

1. Dr. R. Sundaraguru

29/5/24

2. Mangunatha Siddappa

28/6/24



## D E C L A R A T I O N

I, **SHANTANU SINGH** final year student of Electronics and communication Engineering, Sir M. Visvesvaraya Institute Of Technology – 562157 , declare that the Internship has been successfully completed, in “**Varcons Technologies Private Limited**”. This report is submitted in partial fulfillment of the requirements for award of Bachelor Degree in Branch name, during the academic year 2023-2024

Date :21/09/2023

:

Place : Bangalore

USN : 1MV20EC105

NAME : SHANTANU SINGH

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANASANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“ADVANCED EMBEDDED SYSTEM AND IoT DESIGN”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**SHEIK TANZEEM**

**1MV20EC106**

*Internship carried out at*

**INDIAN TECH-KEYS**

**BANGALORE-560038**

**Internal Guide:**

**Dr. SHEETAL BAGALI**

**Associate Professor**

**Dept of ECE, Sir MVIT**

**Bengaluru-562157**

**External Guide:**

**Mr.KOTRESH M**

**DIRECTOR**

**Indian Tech-Keys,**

**Bengaluru-560001**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belgaum, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **SHEIK TANZEEM (1MV20EC106)**, a bonafide student of **SIR M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Indian Tech-Keys, Bangalore-560038** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2022 – 2023**.

*Signature of the Guide*

**Dr. Sheetal Bagali**  
Associate Professor  
Department of ECE

*Signature of HOD*

**Dr. V.G. Supriya**  
Professor & Head  
Department of ECE

*Signature of Principal*

**Prof. Rakesh S.G.**  
Principal  
Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**  
**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. R. Sundaraguru*

*Signature* 29/5/24

2. *Manjunatha Naidu*

*Signature* 29/5/24



## DECLARATION

I **SHIEK TANZEEM**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, Associate Professor, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2022-2023.

**Place: Bengaluru**

**Date: 29/05/24**



**SHEIK TANZEEM**  
**1MV20EC106**

# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



**BELAGAVI – 590018, Karnataka**

## **INTERNSHIP REPORT**

**ON**

**“Social Media Sentiment Analysis”**

*Submitted in partial fulfilment for the award of degree(18EC185)*

**BACHELOR OF ENGINEERING IN**

**Electronics and Communication Engineering**

*Submitted by:*

**SHIVAM KUMAR**

**1MV20EC107**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**

**Halasuru, M.G Road**

**BENGALURU -560001**

**Conducted at**

**Varcons Technologies Pvt Ltd**



**Department of Electronics and Communication Engineering**

**Sir M VISVESVARAYA INSTITUTE OF TECHNOLOGY**

*(Approved by AICTE New Delhi, Affiliated to VTU, Belagavi, ISO 9001:2008 Certified)*

**Off International airport road, krishnadevarayaNagar,**

**Bengaluru – 562157**

**2022 – 2023**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **SHIVAM KUMAR (1MV20EC107)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. R. Sundaraguru**.....

29/5/24

2. **Manjunatha Eddappa**.....

28/5/24



# ACKNOWLEDGEMENT

The satisfaction and euphoria that accompany the completion of any task would be incomplete without the mention of the people who made it possible, whose constant guidance and encouragement ground my efforts with success.

I consider it is a privilege to express my gratitude and respect to all those who guided me in completion of Internship.

## DECLARATION

I, **Shivam Kumar** final year student of Electronics and communication Engineering, Sir M. Visvesvaraya Institute Of Technology – 562157 , declare that the Internship has been successfully completed, in “**Varcons Technologies Private Limited**”. This report is submitted in partial fulfillment of the requirements for award of Bachelor Degree in Branch name, during the academic year 2023-2024

Date :21/09/2023

:

Place: Bangalore

USN: 1MV20EC107

NAME: Shivam Kumar

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“Smart Parking System using IOT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**SHRISTI RAJ**

**1MV20EC108**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**

**Halasuru, M.G Road**

**BENGALURU-560001**

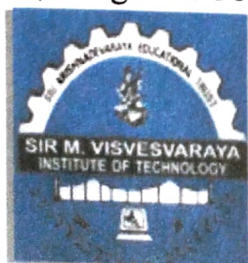
**Internship Coordinator:**

**Dr. Sheetal Bagali**

**Associate Professor,**

**Dept. of ECE, Sir MVIT**

**Ltd, Bengaluru-562157**



**External Guide:**

**Spoorthi H.C**

**Director,**

**Varcons Technologies Pvt**

**Bengaluru-560001**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **SHRISTI RAJ (1MV20EC108)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

AC

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Supriya

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

**SA** 30/05/24

2. **Dr. Saemita Mohapatra**

**Shapata** 30.5.24

Sulambh

PRINCIPAL

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunasamaranahalli  
Internal: Sir M. VIT Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru



## DECLARATION

I **SHRISTI RAJ**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, **Associate Professor**, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

SHRISTI RAJ

Date:

1MV20EC108

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT**

**ON**

**Smart Parking System using IOT**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**SHUBHRADEEP DAS**

**1MV20EC109**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**

**BENGALURU-560001**

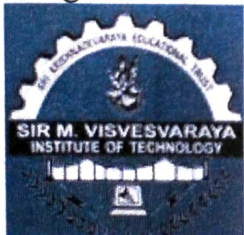
Internship Coordinator:

**Dr. Sheetal Bagali**

Associate Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157



External Guide:

**Spoorthi H.C**

Director

**Varcons Technologies Pvt Ltd**

**Bengaluru-560001**

*(Handwritten signature)*

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **SHUBHRADEEP DAS (1MV20EC109)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering** in **Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*AC*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

*Supriya*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

*Sulankar*

Signature of Principal

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnadevaraya Road, Basavanahalli**  
**International Airport Road, Bangalore-562 157**  
**Principal**

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. *Dr. Saumita Mohapatra*

*Mohapatra*  
*30.5.24*

2. *Dr. Harish S.*

*SH*  
*30/5/24*



**Varcons Technologies Pvt Ltd**  
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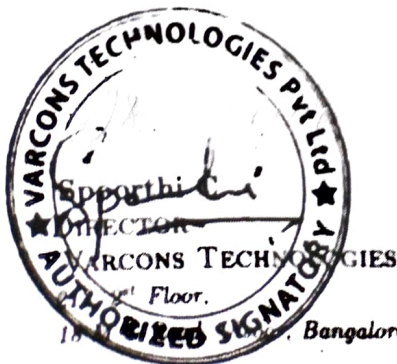
## CERTIFICATE OF INTERNSHIP

This is to certify that **Shubhradeep Das** whose USN is **1MV20EC109** has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart parking using iot**. As part of the project, they worked with **Advanced Microcontrollers and Sensor Interfaces**. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“Stock Sentimental Analysis”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**  
*Submitted by:*

**SHWETA KUMARI**

**1MV20EC110**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**Halasuru, M.G Road**  
**BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Tejas N.**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

This is to certify that **SHWETA KUMARI (1MV20EC110)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

Signature of HOD

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya Street, Hunsur, Mysore  
Internal Sign Report Post, Bangalore-562 157

**Dr. Sheetal Bagali**

**Dr. V. G. Supriya**

**Prof. Rakesh S.G.**

Associate Professor

Professor & Head

Principal

Dept. of ECE

Dept. of ECE

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

30/05/24

2. **Dr. Saemeta Mohapatra**

30.5.24



# DECLARATION

I, **SHWETA KUMARI** final year student of Electronics and communication Engineering, Sir M. Visvesvaraya Institute Of Technology – 562157 , declare that the Internship has been successfully completed, in “**Varcons Technologies Private Limited**”. This report is submitted in partial fulfillment of the requirements for award of Bachelor Degree in Branch name, during the academic year 2023-2024

Date :21/09/2023

:

Place : Bangalore

USN : 1MV20EC110

NAME : SHWETA KUMARI

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“SMART STREET LIGHT SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING  
in  
ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**SHWETHA**

**1MV20EC111**

*Internship carried out at*

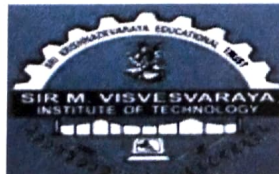
**VARCONS TECHNOLOGIES  
BENGALURU-560001**

**Internal Guide:**

**Guide Name: Sheetal Bagali,**  
**Designation: Associate Professor**  
**Dept of ECE, Sir MVIT**  
**Bengaluru-562157**

**External Guide:**

**Guide Name: Spoorthi C**  
**Designation: Director**  
**Varcons technologies,**  
**Bengaluru-560001**



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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-562157**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belgavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### CERTIFICATE

This is to certify that **SHWETHA (1MV20EC111)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons technologies** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*AE*

Signature of the Guide

**Sheetal bagali**

Associate Professor

Dept. of ECE

*Supriya*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

*Silanku*

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishna Nagar, Hunsur, Mysore  
International Airport Road, Bangalore-562157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M VT Bangalore 562 157

### External Viva

Name of the Examiners

Signature with Date

1. *Dr. Harish S.*

*SH* 30.05.24

2. *Dr. Samita Mohapatra*

*Shapastna* 30.5.24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Shwetha** whose USN is **1MV20EC111**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Tech- nologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart street light system**. As part of the project, they worked with **Advanced Microcontrollers** and **Sensor Interfaces**. They interacted with these interfaces using **embedded programming languages**. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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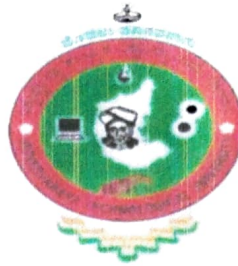
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**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“SMART PARKING SYSTEM USING ARDUINO”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**SIDDHARTHA KUMAR**

**1MV20EC112**

*Internship carried out at*

**VARCONS TECHNOLOGIES**

**213,2<sup>nd</sup> FLOOR, 18 M G ROAD, ULSOOR  
BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

Associate Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157

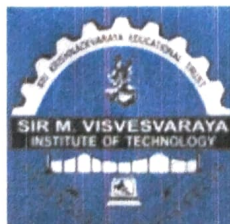
**External Guide:**

**Spoorthi H.C**

Director,

Varcons Technologies

Bengaluru-560001



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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

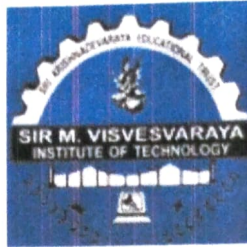
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **SIDDHARTHA KUMAR(1MV20EC112)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **VARCONS TECHNOLOGIES** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

\_\_\_\_\_

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

\_\_\_\_\_

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

\_\_\_\_\_

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M. Visvesvaraya Institute of Technology  
Bangalore 562 157

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

\_\_\_\_\_ **30/05/24**

2. **Dr. Saemita Mohapatra**

\_\_\_\_\_ **30/05/24**





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Siddhartha Kumar** whose USN is **1MV20EC112**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**. As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“SMART STREET LIGHT SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING  
in  
ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**SRI LAKSHMI A REDDY**

**1MV20EC113**

*Internship carried out at*

**VARCONS TECHNOLOGIES  
BENGALURU-560001**

Internal Guide:

**Guide Name: Sheetal Bagali,**  
Designation: Associate Professor  
Dept of ECE, Sir MVIT  
Bengaluru-562157

External Guide:

**Guide Name: Spoorthi C**  
Designation: Director  
Varcons technologies,  
Bengaluru-560001



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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belgavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **SRI LAKSHMI A REDDY (1MV20EC113)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons technologies** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*AE* 19/3/24

*Supriya*

*Sulamb*

PRINCIPAL  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Bangalore-562 157  
International Airport Road, Bangalore-562 157

Signature of the Guide

Signature of HOD

Signature of Principal

**Sheetal bagali**

**Dr. V. G. Supriya**

**Prof. Rakesh S.G.**

Associate Professor

Professor & Head

Principal

Dept. of ECE

Dept. of ECE

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. Harish S.*

*Sd/-* 20.5.24

2. *Dr. Saumita Mohapatra*

*Mohapatra*  
20.5.24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Sri Lakshmi A Reddy** whose USN is **1MV20EC113**, has completed their **Embedded Systems** Internship organized and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Street Light System**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“ADVANCED EMBEDDED SYSTEM AND IoT  
DESIGN”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**SUBRAMANIAM G**

**1MV20EC115**

*Internship carried out at*

**INDIAN TECH-KEYS**

**BANGALORE-560038**

**INTERNSHIP CO-ORDINATOR:**

**Dr. SHEETAL BAGALI**  
ASSOCIATE PROFESSOR,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**EXTERNAL GUIDE:**

**Mr. KOTRESH M**  
DIRECTOR  
Indian Tech-Keys,  
Baiyappanahalli  
Bengaluru-560068



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU  
**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **SUBRAMANIAM G (1MV20EC115)**, a Bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bangalore** has satisfactorily completed Industrial training from **Indian Tech-Keys, Bangalore-560038** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**PRINCIPAL**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnadevarayanagar, Hunsur, Mysore**  
**International Airport Road, Bangalore-562 157**

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

30/05/24

2. **Dr. Samita Mohapatra**

30/05/24



## **DECLARATION**

I **SUBRAMANIAM G**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali** , Associate Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bangalore**

**Date:**

**SUBRAMANIAM G**

**1MV20EC115**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“EMBEDDED SYSTEMS AND INTERNET OF THINGS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**SUDHEENDRA S KULKARNI**

**1MV20EC116**

*Internship carried out at*

**KARUNADU TECHNOLOGIES Pvt Ltd**

**BENGALURU-560090**

**INTERNSHIP CO-ORDINATOR:**

**Dr. SHEETAL BAGALI**  
**ASSOCIATE PROFESSOR,**  
**Dept. of ECE, Sir MVIT**  
**Bengaluru-562157**



**EXTERNAL GUIDE:**

**Mr. HARISH N**  
**MANAGER**  
**Karunadu Technologies**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **SUDHEENDRA S KULKARNI (1MV20EC116)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **KARUNADU TECHNOLOGIES PRIVATE LIMITED, BENGALURU-560013** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*Dr. Sheetal Bagali*  
18/03/2024

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

*Dr. V. G. Supriya*  
18/03/2024

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

*Prof. Rakesh S.G.*

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishna Nagar, 100 Feet Road, Anahalli  
International Airport Road, Bangalore-562 157  
Signature of Principal  
**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

Signature with Date

1. *Dr. Harish S.*

*Dr. Harish S.*  
20/05/24

2. *Dr. Sasmitha Mohapatra*

*Dr. Sasmitha Mohapatra*  
20/05/24



## **DECLARATION**

I **SUDHEENDRA S KULKARNI**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies a report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, Associate Professor, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2023-2024.

**Place: Bengaluru**

**Date:**

**SUDHEENDRA S KULKARNI**

**1MV20EC116**



**INTERNSHIP REPORT**  
**ON**

**“EMBEDDED SYSTEMS (Smart Parking System using IOT)”**

*Submitted in partial fulfillment of the requirements for the award of the degree.*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Sushant Kumar**

**1MV20EC117**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**Halasuru, M.G Road**  
**BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001



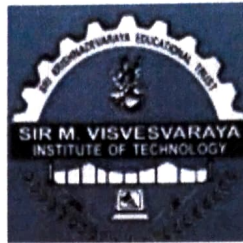
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **Sushant Kumar (1MV20EC117)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

-----  
*AE*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

-----  
*Supriya*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

-----  
*Sulambh*

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadasaiah Road, Bengaluru-562157  
Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M. VIT, Bangalore 562157  
External Viva

Name of the Examiners

1. *Dr. Harish S*

2. *Dr. Saemita Mohapatra*

Signature with Date

-----  
*SH* 30/05/24

-----  
*Mohapatra* 30/5/24



## DECLARATION

I **Sushant Kumar**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, Associate Professor, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2023-2024.

Place: Bengaluru

Sushant Kumar

Date:

1MV20EC117

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“ADVANCE EMBEDDED AND IoT INTERNSHIP”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**THASMEEN D**

**1MV20EC118**

*Internship carried out at*  
**SIR MVIT COLLEGE,  
BENGALURU-562157**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

**Associate Professor,**

**Dept. of ECE, Sir MVIT**

**Bengaluru-562157**

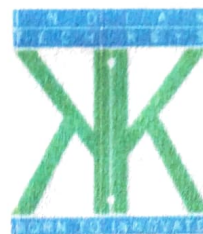
**External Guide:**

**Mr. Kotresh M**

**Director,**

**Indian TechKeys**

**Bengaluru- 560038**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**

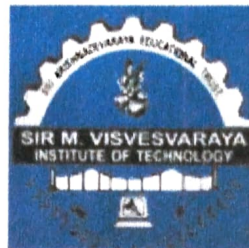
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **THASMEEN D (1MV20EC118)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*AE*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

*Supriya*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

*Sulambh*

**PRINCIPAL**

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsarasanahalli  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VT Bangalore 562 157**

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. Harish S.*

*SD*  
*20/05/24*

2. *Dr. Saemita Mohapatra*

*Mohapatra*  
*20.5.24*



# DECLARATION

I **THASMEEN D**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali** , Associate Professor, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2023-2024.

Place: Bengaluru

Date: 23/05/24



THASMEEN D

1MV20EC118

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT**  
**ON**

**Smart Parking System using IOT**  
*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**  
*Submitted by:*

**TUSHAR YADAV**  
**1MV20EC119**

*Internship carried out at*  
**Varcons Technologies Pvt Ltd**  
**BENGALURU-560001**

Internship Coordinator:  
**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



External Guide:  
**Spoorthi H.C**  
Director  
Varcons Technologies Pvt Ltd  
Bengaluru-560001

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **TUSHAR YADAV (1MV20EC119)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*AE*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

*Supriya*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

*Sulambh*

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya Road, Narasaraopeta  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M. VIT Bangalore 562 157**

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. Harish S*

*SH* 30/05/24

2. *Dr. Samita Mohapatra*

*Shapastha* 30.5.24





**Varcons Technologies Pvt Ltd**  
Communicate. Collaborate. Create

## CERTIFICATE OF INTERNSHIP

This is to certify that **Tushar Yadav** whose USN is **1MV20EC119**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT**  
**ON**

**Smart Parking System using IOT**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**UJJWAL KUMAR**

**1MV20EC120**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**  
**BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

**Associate Professor,**

**Dept. of ECE, Sir MVIT**

**Bengaluru-562157**

**External Guide:**

**Spoorthi H.C**

**Director**

**Varcons Technologies Pvt Ltd**

**Bengaluru-560001**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BENGALURU-562157 2023-2024**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **UJJWAL KUMAR (1MV20EC120)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*[Signature]*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

*[Signature]*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

*[Signature]*

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnadevarayanagar, Hunsur, Mysore**  
**International Airport Road, Bangalore-562 157**

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. Harish S.*

*[Signature]* 20.5.24

2. *Dr. Sasmitha Mohapatra*

*[Signature]* 20.5.24





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## CERTIFICATE OF INTERNSHIP

This is to certify that **Ujjwal Kumar** whose USN is **1MV20EC120**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



213, 2<sup>nd</sup> floor,  
18 M G Road, Ulsoor, Bangalore-560001

[www.varconstech.com](http://www.varconstech.com)

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“Embedded System”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**V Suchithra**

**1MV20EC121**

*Internship carried out at*

**Precimeasure Controls Pvt Ltd**

**Dabaspete, nelamangala**

**BENGALURU-562111**

Internship coordinator

**Dr. Sheetal Bagali**

Associate Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157



External guide:

**Harish B. G**

Director,

Precimeasure controls Pvt Ltd

Bengaluru-562111



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**BENGALURU-56215**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## Department of Electronics and Communication Engineering



### CERTIFICATE

This is to certify that V SUCHITRA (1MV20EC121), a bonafide student of **SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**, BENGALURU has satisfactorily completed industrial training from precimeasure control Pvt. Ltd. The report is in partial fulfillment of the requirements for the award of the degree of “**Bachelor of Engineering**” in **Electronics and Communication Engineering** from the **Visvesvaraya Technological University**, Belagavi, Karnataka, India, during the academic year 2023-2024.


  
Signature of Guide

**Dr. Sheetal Bagali**  
Associate Professor  
Dept. of ECE

  
Signature of HOD

**Dr. Supriya V.G.**  
Professor & Head  
Dept. of ECE

**Head of the Department**  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157



  
Signature of Principal  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishna Nagar, Hosur Road, Bangalore-562 157  
Principal  
Sir MVIT, Bengaluru

### External Viva

Name of the Examiners

1.  **Dr. Harish S.**
2.  **Dr. Sasmitha Mohapatra**

Signature with Date

  
30.5.24  
  
30.5.24



# ACKNOWLEDGEMENT

The joy and satisfaction that accompany the successful completion of any task would be incomplete without the blessings from the almighty and the people mentioned below who made it possible.

First and foremost, I offer my sincere phrases of thanks to **Prof. Rakesh S. G.**, Hon. Secretary, Sir MVIT, for providing help and support to carry out the internship.

I would like to express my gratitude to our **Principal, Prof. Rakesh S. G.** for providing me a congenial environment for engineering studies and also for having showed me the way to carry out this internship.

I consider it a privilege and honor to express my sincere thanks to **Dr. Supriya V.G.**, Professor and Head, Department of ECE for her support and invaluable guidance throughout the tenure of this internship.

I would like to thank my guide **Dr. Sashmita Mohapatra**, Professor, for the support, guidance, motivation, encouragement for the successful completion of this internship.

I would like to extend my gratitude to our internship coordinators **Mr. Chethan** for their support, encouragement and guidance during the entire internship.

I intend to thank all the teaching and non-teaching staffs of our Department of ECE for their immense help and co-operation.

Finally, I would like to express my gratitude to my parents and friends who always stood by me.

*Sirisha Raju*

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEMS”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**VAIBHAV KUMAR**

**1MV20EC122**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
Halasuru, M.G Road  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Spoorthi H.C**  
Director,  
Varcons Technologies Pvt Ltd,  
Bengaluru-560001



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **VAIBHAV KUMAR (1MV20EC122)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishna Nagar, Bengaluru - 562157  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BANGALORE - 562 157

### External Viva

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

2. **Dr. Saemita Mohapatra**

30/05/24

30.5.24



## DECLARATION

I **VAIBHAV KUMAR**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, Associate Professor, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bengaluru**

**VAIBHAV KUMAR**

Date:

1MV20EC122

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**

**“ADVANCE EMBEDDED AND IoT INTERNSHIP”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

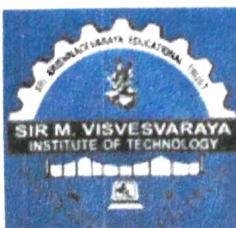
*Submitted by:*

**VARSHIKHA K V**  
**1MV20EC123**

*Internship carried out at*  
**SIR MVIT COLLEGE,**  
**BENGALURU-562157**

**Internship Coordinator:**  
**Dr. Sheetal Bagali**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Mr. Kotresh M**  
Director,  
Indian TechKeys  
Bengaluru- 560038



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**  
**BENGALURU-562157**  
**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **VARSHIKHA K V (1MV20EC123)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*Signature of Dr. Sheetal Bagali*

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

*Signature of Dr. V. G. Supriya*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

**Head of the Department**  
**Electronics & Communications Engineering**

**Sir M. VIT, Bengaluru**

External Viva

*Signature of Prof. Rakesh S. G.*

PRINCIPAL

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnadevarayanagar, Hunsarayanahalli**  
**International Airport Road, Bangalore-562 157**

**Prof. Rakesh S. G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1. *Dr. Harish S.*

*Signature of Dr. Harish S.*  
20/05/24

2. *Dr. Samita Mohapatra*

*Signature of Dr. Samita Mohapatra*  
30.5.24



## DECLARATION

I **VARSHIKHA K V**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali** , Associate Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Date: 23/05/2024

*Varshika K V.*

VARSHIKHA K V

1MV20EC123

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“SMART PARKING SYSTEM USING IOT”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**VIKAS SHIVASHANKAR BENAL**

**1MV20EC124**

*Internship carried out at*

**VARCONS TECHNOLOGIES PVT LTD**

**BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

Associate Professor,

Dept. of ECE, Sir MVIT

Bengaluru-562157

**External Guide:**

**Spoorthi C**

Director,

Varcons Technologies

Bengaluru-560001



*(Handwritten signature)*

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

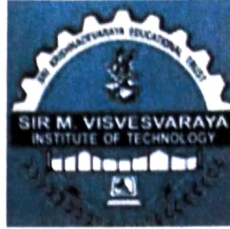
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **Vikas Shivashankar Benal (1MV20EC124)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishna Nagar, Hosur Road, Bengaluru-562157  
Internship Training Center, Bengaluru-562157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**Head of the Department**  
**Electronics & Communications Engineering**  
Sir M. Visvesvaraya Institute of Technology, Bengaluru-562157

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

30.5.24

2. **Dr. Saemita Mohapatra**

30.5.24



## DECLARATION

I **VIKAS SHIVASHANKAR BENAL**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali** , Associate Professor, **Sir M. Visvesvaraya Institute of Technology**, **Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, **Belagavi** during the academic year 2023-2024.

Place: Bengaluru

**VIKAS SHIVASHANKAR BENAL**

Date:

**1MV20EC124**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“Stock Sentimental Analysis”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**YOGESH KUMAR**

**1MV20EC125**

*Internship carried out at*

**Varcons Technologies Pvt Ltd**

**Halasuru, M.G Road**

**BENGALURU-560001**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

**Associate Professor,**

**Dept. of ECE, Sir MVIT**

**Bengaluru-562157**

**External Guide:**

**Tejas N.**

**Director,**

**Varcons Technologies Pvt Ltd,**

**Bengaluru-560001**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **YOGESH KUMAR(1MV20EC125)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya Nagar, Hunsuramanehalli  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562 157

**External Viva**

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

30/05/24

2. **Dr. Sagnita Mohapatra**

30.5.24



## D E C L A R A T I O N

I, **YOGESH KUMAR** final year student of Electronics and communication Engineering, Sir M. Visvesvaraya Institute Of Technology – 562157 , declare that the Internship has been successfully completed, in “**Varcons Technologies Private Limited**”. This report is submitted in partial fulfillment of the requirements for award of Bachelor Degree in Branch name, during the academic year 2023-2024

Date :21/09/2023

:

Place : Bangalore

USN : 1MV20EC125

NAME : YOGESH KUMAR

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“INDUSTRIAL AUTOMATION”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**NIRANJAN SRIDHAR**

**1MV20EC126**

*Internship carried out at*

**CONTEK AUTOMATION PVT. LTD.**

**BENGALURU-560043**

**INTERNSHIP CO-ORDINATOR:**

**Dr. SHEETAL BAGALI**  
ASSOCIATE PROFESSOR,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**EXTERNAL GUIDE:**

**Mr. RAJENDRA PAWAR**  
DIRECTOR  
CAPL, HORAMAVU



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **NIRANJAN SRIDHAR (1MV20EC126)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **CONTEK AUTOMATION PRIVATE LIMITED, BENGALURU-560043** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunasamaranahalli  
Internal No. 100, Bengaluru-562157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering

External Viva

Name of the Examiners

1. **Dr. Harish S.**

2. **Dr. Sasmitha Mohapatra**

Signature with Date



## **DECLARATION**

I **NIRANJAN SRIDHAR**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali** , Associate Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bengaluru**

**NIRANJAN SRIDHAR**

**Date:**

**1MV20EC126**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590018**



**INTERNSHIP REPORT (18ECI85)**

**ON**

**“WAVE SOLDERING”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**R SHANMUKHA SRINIVAS**

**1MV20EC127**

*Internship carried out at*

**YSL ELECTRONICS PRIVATE LIMITED**

**BANGALORE-560064**

**INTERNSHIP CO-ORDINATOR:**

**Dr. SHEETAL BAGALI**  
ASSOCIATE PROFESSOR,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**EXTERNAL GUIDE:**

**Mr. B. REDDY**  
MANAGER (HR/NS)  
YSL Electronics, KHB  
Industrial Area,  
Bengaluru-560064



**YSL Electronics**

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU

**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **R SHANMUKHA SRINIVAS (1MV20EC127)**, a Bonafede student of **Sir M. Visvesvaraya Institute of Technology, Bangalore** has satisfactorily completed Industrial training from **YSL ELECTRONICS, BANGALORE-560064** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineer**  
**Sir M. VIT Bangalore 562 157**

**External Viva**

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnadevarayanagar, Hunasamaranahalli**  
**International Airport Road, Bangalore-562 157**

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1. **Dr. Harish S.**

**30.05.24**

2. **Dr. Sasmitha Mohapatra**

**30.5.24**

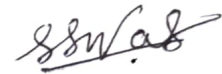


## **DECLARATION**

I **R SHANMUKHA SRINIVAS**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali** , Associate Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

**Place: Bangalore**

**Date: 30/05/2024**



**R SHANMUKHA SRINIVAS**

**1MV20EC127**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“SMART PATIENT WARD”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**VIJAY Y**

**1MV20EC128**

*Internship carried out at*

**VARCONS TECHNOLOGIES  
BENGALURU-560001**

**Internal Guide:**

**Dr. SHEETAL BAGALI,**  
ASSOCIATE PROFESSOR  
Dept of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**

**Spoorthi C**  
Director  
Varcons technologies,  
Bengaluru-560001



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



## CERTIFICATE

This is to certify that **VIJAY Y (1MV20EC128)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons technologies** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

*[Signature]*

Signature of the Guide

**Dr. Sheetal Bagli**

Associate Professor

Dept of ECE

*[Signature]*

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

*[Signature]*

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnadevarayanagar, Hunsur, Mysore Road,**  
**Bangalore-562 157**

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

1.

*Dr. Saemita Mohapatra*

2.

*Dr. Harish S.*

**External Viva**

Signature with Date

*[Signature]*  
*30.5.24*

*[Signature]*  
*30.5.24*





Date: 11<sup>th</sup> August, 2023

Name: VIJAY Y

USN: 1MV20EC128

Placement ID: TIE0308ES158

Dear Student,

We would like to congratulate you on being selected for the **Embedded Systems with IOT** Internship position with **Varcons Technologies**, effective Start Date **11<sup>th</sup> August, 2023**. All of us are excited about this opportunity provided to you!

This internship is viewed as being an educational opportunity for you, rather than a part-time job. As such, your internship will include training/orientation and focus primarily on learning and developing new skills and gaining a deeper understanding of concepts of **Embedded Systems with IOT** through hands-on application of the knowledge you learn while you train with the senior developers. You will be bound to follow the rules and regulations of the company during your internship duration.

Again, congratulations and we look forward to working with you!.

Sincerely,

Spoorthi H C

**Director**

VARCONS TECHNOLOGIES

213, 2<sup>nd</sup> Floor, 18 M G Road, Ulsoor,

Bangalore-560001

# VISVESVARAYA TECHNOLOGICAL UNIVERSITY

JNANA SANGAMA, BELAGAVI – 590 018



## INTERNSHIP REPORT

ON

### “ADVANCE EMBEDDED AND IoT INTERNSHIP”

*Submitted in partial fulfillment of the requirements for the award of the degree*

## BACHELOR OF ENGINEERING

in

## ELECTRONICS & COMMUNICATION ENGINEERING

*Submitted by:*

**BACHCHANAKALLAPPA H**

**1MV20EC129**

*Internship carried out at*  
SIR MVIT COLLEGE,  
BENGALURU-562157

Internship Coordinator:

**Dr. Sheetal Bagali**

Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:

**Mr. Kotresh M**

Director,  
Indian TechKeys  
Bengaluru- 560038



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
SRI KRISHNADEVARAYA EDUCATIONAL TRUST  
BENGALURU-562157  
**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



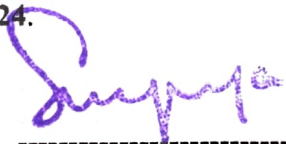
## CERTIFICATE

This is to certify that **BACHCHANAKALLAPPA H (1MV20EC129)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECH KEYS** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

  
-----

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**  
Associate Professor  
Dept. of ECE

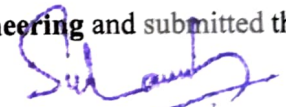
  
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Signature of HOD

**Dr. V. G. Supriya**

Head of the Department

Professor & Head  
Dept. of ECE  
Electronics & Communication Engineering  
Sir M VIT Bangalore 562 157

  
-----

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishna Nagar, Hosur Road, Mahalli  
International Airport Road, Bangalore-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

### External Viva

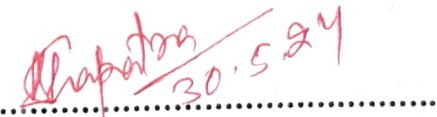
Name of the Examiners

Signature with Date

1.   
-----

  
----- 20/05/24

2.   
-----

  
----- 30.5.24



## DECLARATION

I **BACHCHANAKALLAPPA H**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali** , Associate Professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

BACHCHANAKALLAPPA H

Date: 30/05/2024

1MV20EC129

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**STUDY OF RESONANT CONVERTERS**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Bhavya M**  
**1MV21EC400**

*Internship carried out at*

**MTRDC, DRDO,**  
**BENGALURU-560013**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

External Guide:  
**Mr. K Mirjith**  
Scientist 'F'  
MTRDC, DRDO  
Bengaluru-560013



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **BHAVYA M(1MV21EC400)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **MTRDC(DRDO)** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
International Airport Road, Bengaluru-562157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir MVIT, Bengaluru - 562157

**External Viva**

Name of the Examiners

Signature with Date

1. Dr. Sasmita Mohapatra

Dr. Sasmita Mohapatra  
30.05.24

2. Dr. Harish S.

Dr. Harish S.  
30.05.24



# CERTIFICATE FROM THE INDUSTRY



सूक्ष्मतरंग नलिका अनुसंधान तथा विकास संगठन

बी.ई.एल. कॉम्प्लेक्स, जालहल्ली, बेंगलूर - 560013

Microwave Tube Research and Development Centre

BEL Complex, Jalahalli, Bangalore-560013, Karnataka

EPABX: 080-22658096 Fax: 28381750/28386804/28386809 Web: <http://drdo.gov.in>

रक्षा अनुसंधान तथा विकास संगठन, रक्षा मंत्रालय, भारत सरकार - Defence Research & Development Organization, Ministry of Defence, Government of India

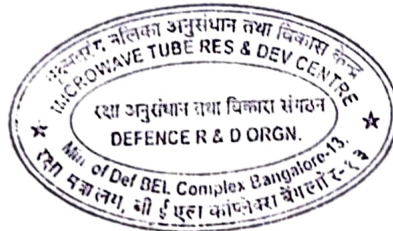
Date: 19-Sep-2023

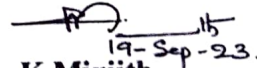
## CERTIFICATE OF INTERNSHIP

This is to certify that **Bhavya M.** (College ID: 1MV21EC400) student of Sir M. Visveswaraya Institute of Technology has completed an internship at MTRDC, DRDO, effective from **14-Aug-2023 to 14-Sep-2023**.

During the internship period, Bhavya M. demonstrated enthusiasm and commitment to learning. We believe she has gained valuable insights and practical exposure to basics of dc-dc converter topologies and testing methodologies.

We extend our best wishes to Bhavya M. for her future endeavors and trust that the skills and knowledge acquired during the time with us will serve as strong foundation for her professional journey.



  
19-Sep-23.  
**K. Mirjith**  
**Scientist 'F'**  
**MTRDC, DRDO**

EPABX: 28380388, 28381155, 28382402, 28386807 Fax: 080-28381750/28386804/28386809  
Web: [www.drdo.org](http://www.drdo.org) E-mail: [director@mtrdc.drdo.in](mailto:director@mtrdc.drdo.in)

ISO 9001 : 2008



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Doddamani Mehaboob Alum**

**1MV21EC402**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr Sasmita Mahapatra**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Spoorthi H.C**  
Internship Coordinator,  
Varcons Technologies Pvt Ltd,  
Bengaluru-562157

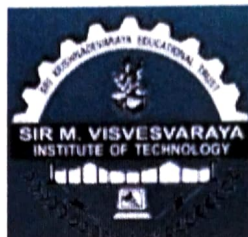
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **Doddamani Mehaboob Alum(1MV21EC402)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship  
Coordinator

**Dr Sasmita Mahapatra**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hupasanahalli  
Internal Road, Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M. VIT, Bangalore 562 157

### External Viva

Name of the Examiners

Signature with Date

1. Dr. Sasmita Mahapatra

Dr. Sasmita Mahapatra  
30.5.24

2. Dr. Harish S.

Dr. Harish S.  
30.5.24





**Varcons Technologies Pvt Ltd**

Communicate. Collaborate. Create

## CERTIFICATE OF INTERNSHIP

This is to certify that **Doddamani Mehaboob Alum** whose USN is **1MV21EC402**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



213, 2<sup>nd</sup> Floor,  
18 M G Road, Ulsoor, Bangalore-560001

[www.varconstech.com](http://www.varconstech.com)

[contact@varconstech.com](mailto:contact@varconstech.com)

This certificate was generated using [CERTIEFY.COM](http://CERTIEFY.COM)

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT  
ON  
“EMBEDDED SYSTEM”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Gulam Gouse M**

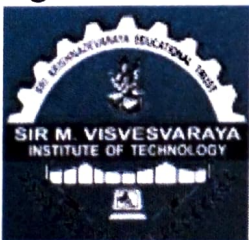
**1MV21EC403**

*Internship carried out at*

**Varcons Technologies Pvt Ltd  
BENGALURU-560001**

**Internship Coordinator:**  
**Dr Sasmita Mahapatra**  
Associate Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157

**External Guide:**  
**Spoorthi H.C**  
Internship Coordinator,  
Varcons Technologies Pvt Ltd,  
Bengaluru-562157



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **Gulam Gouse M (1MV21EC403)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Varcons Technologies Pvt Ltd** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship  
Coordinator

**Dr Sasmita Mahapatra**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr V. G. Supriya**

Professor & Head

Dept. of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
K. S. Narayana Murthy Road, Sampalangi  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Head of the Department  
Electronics & Communications Engineering  
Sir M. VIT, Bangalore 562 157

**External Viva**

Name of the Examiners

Signature with Date

1. Dr. Sasmita Mahapatra

Dr. Sasmita Mahapatra  
30.05.24

2. Dr. Harish S

Dr. Harish S  
30.05.24





**Varcons Technologies Pvt Ltd**

Communicate. Collaborate. Create

## CERTIFICATE OF INTERNSHIP

This is to certify that **Gulam Gouse** whose USN is **1MV21EC403**, has completed their **Embedded Systems** Internship organised and handled by **Varcons Technologies** from **13<sup>th</sup> August, 2023** to **20<sup>th</sup> September, 2023**.

The person to whom this certificate is addressed to has worked on a project titled **Smart Parking System using IoT**, As part of the project, they worked with Advanced Microcontrollers and Sensor Interfaces. They interacted with these interfaces using embedded programming languages. The entire project was documented and necessary reports were submitted.

During the course of the internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](#)



18 M G Road, Ulsoor, Bangalore-560001

[www.varconstech.com](http://www.varconstech.com)

[contact@varconstech.com](mailto:contact@varconstech.com)

This certificate was generated using [CERTIEFY.COM](http://CERTIEFY.COM)

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**  
**ON**  
**“STUDY OF FABRICATION AND ASSEMBLY OF PCB**  
**PACKAGES”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**Keerthana A**  
**1MV21EC405**

*Internship carried out at*

**NEWTECH AEROSPACE PRIVATE LIMITED**  
**BENGALURU-560019**

Internship Coordinator:  
**Dr. Sasmita Mohapatra**  
Professor,  
Dept. of ECE, Sir MVIT  
Bengaluru-562157



External Guide:  
**Mr. Muralidar**  
General Manager  
NewTech Aerospace  
Bengaluru-560019



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that **KEERTHANA A(1MV21EC405)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **NewTech Aerospace Private Limited** in partial fulfillment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sasmita Mohapatra**

Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Head of the Department  
Electronics & Communications Engineering  
Sir M. VIT Bangalore 562 157

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Hunsur, Mysore  
International Airport Road, Bengaluru-562 157

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. Dr. Sasmita Mohapatra

Dr. Sasmita Mohapatra  
30.5.24

2. Dr. Harish S.

Dr. Harish S.  
30.5.24



# CERTIFICATE FROM THE INDUSTRY

## Newtech Solutions

(An ISO 9001:2015 Certified Company)



# 29, 1st 'A' Cross, 3rd Main Road,  
Hanumanthanagar, Bangalore - 560 019  
Telefax : 080-2448770/71, Mob : +91 9449026360  
E-mail : ntstlr@yahoo.co.in / anand@ntstlr.com  
info@ntstlr.com, Website : www.ntstlr.com

### INTERNSHIP CERTIFICATE

Ref 017/2023-24

Dated 25/10/2023

#### TO WHOMSOEVER IT MAY CONCERN

This is to certify that Miss. Keerthana A, bearing USN No. 1MV21EC405, BE- ECE student has carried out an internship on "Study on fabrication & assembly of PCB packages" in our organization from 1<sup>st</sup> Sep 2023 to 30<sup>th</sup> Sep 2023.

During the period of training she was keen, hardworking and displayed good conduct and character.

We wish her all success in her future endeavour.

Thanking you,

For Newtech Solutions

  
Authorized Signatory



✓ PCB Design ✓ Assembly & Testing ✓ Software for Testing Electronic Circuits & Devices ✓ Automatic Test Equipments  
Works : No. 69L, KIADB Aerospace Park, Unachuru, Jala Hobli, Bangalore North Dist, Bangalore-562 129.

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“PMD INTEGRATED NETWORK CONFIGURATION FOR DATA  
TRANSFER AND CONTROL”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**LAKSHMI B S**

**1MV21EC406**

*Internship carried out at*

**ITC**

**Meenukunte Hosur**

**BENGALURU-562157**

**Internal Guide:**

**Sheetal Bagali,**

**Associate Professor,**

**Dept of ECE, Sir MVIT**

**Bengaluru- 562157**



**External Guide:**

**Mr. Saumya Bhatt,**

**Engineering dept.**

**ITC Limited,**

**Bengaluru- 562157**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

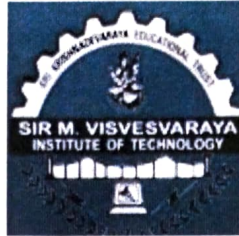
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157


(Affiliated to Visvesvaraya Technological University, Belgavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **LAKSHMI B S (1MV21EC406)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **ITC Limited** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

-----  


Signature of the Guide

**Sheetal Bagali**

Associate professor

Dept of ECE

-----  


Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept of ECE

**Head of the Department**  
**Electronics & Communications Engineer**  
**Sir M VIT Bangalore 562 157**

**External Viva**

-----  


**PRINCIPAL**  
Signature of Principal  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**Krishnadevarayanagar, Humasamaranahalli**  
**International Airport, Bangalore-562 157**

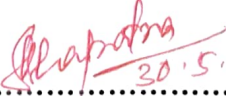
Principal

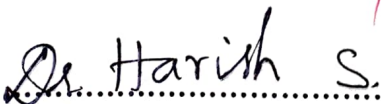
Sir MVIT, Bengaluru

Name of the Examiners

Signature with Date

1. .... 

.....   
30.5.24

2. .... 

.....   
30.5.24



## DECLARATION

I **Lakshmi B S**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Prof. Sheetal Bagali, Associate professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

LAKSHMI BS

Date:

1MV21EC406

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

JNANASANGAMA, BELAGAVI – 590 018



**INTERNSHIP REPORT**

**ON**

**“ADVANCED EMBEDDED SYSTEM AND IoT DESIGN”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**MANOJ D P**

**1MV21EC407**

*Internship carried out at*

**INDIAN TECH-KEYS**

**BANGALORE-560038**

**Internal Guide:**

**Dr. SHEETAL BAGALI**

**Associate Professor**

**Dept of ECE, Sir MVIT**

**Bengaluru-562157**

**External Guide:**

**Mr.KOTRESH M**

**DIRECTOR**

**Indian Tech-Keys,**

**Bengaluru-560001**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belgaum, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **MANOJ D P (1MV21EC407)**, a bonafide student of **SIR M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **Indian Tech-Keys, Bangalore-560038** in partial fulfilment of the requirements as prescribed by the VTU for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2022 – 2023**.

*AC*

Signature of the Guide

**Dr. Sheetal Bagali**

Associate Professor

Department of ECE

*Supriya*

Signature of HOD

**Dr. V.G. Supriya**

Professor & Head

Department of ECE

Head of the Department  
Electronics & Communications Engineering  
Sir M. VIT Bangalore 562 157

*Sulabh*

PRINCIPAL

Signature of Principal

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevaraya Nagar, Hunasamaranahalli  
International Airport Road, Bangalore-562 157

**External Viva**

Name of the Examiners

Signature with Date

1. *Dr. Samita Mahapatra*

*Samita Mahapatra*  
30.5.24

2. *Dr. Harish S.*

*Harish S.*  
30.5.24



## **DECLARATION**

I **MANOJ D P**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sheetal Bagali**, **Associate Professor**, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University**, Belagavi during the academic year 2022-2023.

**Place: Bengaluru**  
**Date: 28/3/2023**

**MANOJ D P**  
**1MV21EC407**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT**

**ON**

**“PMD INTEGRATED NETWORK CONFIGURATION FOR DATA  
TRANSFER AND CONTROL”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**SHASHIKALA R**

**1MV21EC408**

*Internship carried out at*

**ITC**

**Meenukunte Hosur**

**BENGALURU-562157**

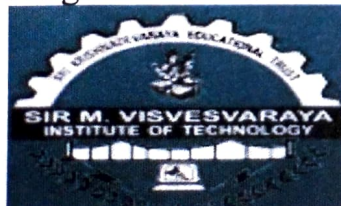
**Internal Guide:**

**Sheetal Bagali,**

**Associate Professor,**

**Dept of ECE, Sir MVIT**

**Bengaluru- 562157**



**External Guide:**

**Mr. Saumya Bhatt,**

**Engineering dept.**

**ITC Limited,**

**Bengaluru- 562157**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
BENGALURU-562157**

**2023-2024**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belgavi, Karnataka)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that **SHASHIKALA R (1MV21EC408)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **ITC Limited** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023**  
– **2024**.


.....  


Signature of the Guide

**Sheetal Bagali**

Associate professor

Dept of ECE

.....  


Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

.....  


**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunsur, Mysore  
Internal Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

**External Viva**

Name of the Examiners

Signature with Date

1. Dr. Saemita Mohapatra

Shapatra  
30.5.24

2. Dr. Harish S.

SH  
30.5.24



## DECLARATION

I **Shashikala R**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Prof. Sheetal Bagali**, Associate professor, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Date:

SHASHIKALA R

1MV21EC408

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI – 590 018**



**INTERNSHIP REPORT(18ECI85)**

**ON**

**“ADVANCED EMBEDDED SYSTEM AND IoT DESIGN”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**

**in**

**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**TEJASWINI K**

**1MV21EC409**

*Internship carried out at*

**SIR MVIT COLLEGE,  
BENGALURU-5602157**

**Internship Coordinator:**

**Dr. Sheetal Bagali**

**Associate Professor,**

**Dept. of ECE, Sir MVIT**

**Bengaluru-562157**

**External Guide:**

**Mr. Kotresh M**

**Director,**

**Indian Techkeys**

**Bengaluru-560038**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

**SIR KRISHNADEVARAYA EDUCATIONAL TRUST**

**BENGALURU-562157**

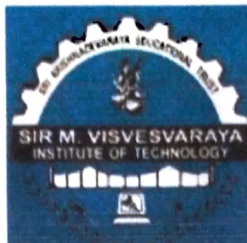
**2023-2024**

# SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

BENGALURU-562157

(Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

This is to certify that **TEJASWINI K (1MV21EC409)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **INDIAN TECHKEYS** in partial fulfillment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.

Signature of the Internship Coordinator

**Dr. Sheetal Bagali**

Associate Professor

Dept. of ECE

Signature of HOD

**Dr. V. G. Supriya**

Professor & Head

Dept. of ECE

**Head of the Department**  
**Electronics & Communications Engineering**  
**Sir M VIT Bangalore 562 157**

**External Viva**

**PRINCIPAL**

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
Krishnadevarayanagar, Hunsaranehalli  
International Airport Road, Bangalore-562 157

**Prof. Rakesh S.G.**

Principal

Sir MVIT, Bengaluru

Name of the Examiners

1. **Dr. Sasmitha Mahapatra**

2. **Dr. Harish S.**

Signature with Date

1. **Dr. Sasmitha Mahapatra** 30.5.24

2. **Dr. Harish S.** 30.5.24



## DECLARATION

I **TEJASWINI K**, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Dr. Sasmita Mohapatra, Professor, Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfillment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place: Bengaluru

Date: 30/05/2024

*Tejaswinik*

TEJASWINI K

1MV21EC409

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANASANGAMA,BELAGAVI-590018**



**INTERNSHIP REPORT**  
**ON**  
**“PMD INTEGRATED NETWORK CONFIGURATION FOR DATA**  
**TRANSFER AND CONTROL”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**in**  
**ELECTRONICS & COMMUNICATION ENGINEERING**

*Submitted by:*

**VISHALA S S**

**1MV21EC410**

*Internship carried out at*

**ITC**

**Menukunttee Hosur**  
**BENGALURU-562157**

**Internal Guide:**  
**Sheetal Bagali,**  
Associate Professor,  
Dept of ECE,Sir MVIT  
Bengaluru-562157



**External Guide:**  
**Mr.Saumya Bhatt,**  
Engineering dept.  
ITC Limited,  
Bengaluru-562157




**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**SIRM.VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**BENGALURU-562157**

**2023-2024**

(Affiliated to Visvesvaraya Technological University, Belgavi, Karnataka)



This is to certify that **VISHALA SS (1MV21EC410)**, a bonafide student of **Sir M. Visvesvaraya Institute of Technology, Bengaluru** has satisfactorily completed Industrial training from **ITC Limited** in partial fulfilment of the requirements as prescribed by the **VTU** for the award of **Bachelor of Engineering in Electronics and Communication Engineering** and submitted this report during the academic year **2023 – 2024**.



Dept of ECE

Supra

Dept of ECE

*Subant*

Principal

Professor & Head  
Dept. of ECE  
Head of the Department  
Electronics & Communications Engineering  
Sir M. VIT Bangalore 562 157

Principal  
PRINCIPAL  
Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Sir MVIT, Bengaluru  
Krishnadevarayana Nagar, Shivarajamaranahalli,  
International Airport Road, Bangalore-562 157.

1. Dr. Saemete Mohapatra

2. Dr. Harish S.

Chapman 30.5.24

30.5.24



## DECLARATION

I Vishala S S, student of VIII semester **Bachelor of Engineering**, Department of Electronics and Communication Engineering, **Sir M. Visvesvaraya Institute of Technology**, Bengaluru embodies report of my internship work carried out by me under the guidance of **Prof. Sheetal Bagali**, Associate professor, **Sir M. Visvesvaraya Institute of Technology, Bengaluru** as partial fulfilment of requirement for the award of Bachelor of Engineering in Electronics & Communication by **Visvesvaraya Technological University, Belagavi** during the academic year 2023-2024.

Place:Bengaluru

VISHALASS

Date:

1MV21EC410

# **VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JNANA SANGAMA, BELAGAVI -590018**



**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“MULTI-TASKING ROBO”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**DANESH KHYADI**  
**DEEKSHITHA G**  
**MUTTU B NAIK**  
**NISHMITHA PINTO**

**1MV21EC028**  
**1MV21EC030**  
**1MV21EC051**  
**1MV21EC058**

**Under the Guidance of**  
**MS. BHUVANESWARI N**  
**Assistant Professor, Dept. of ECE**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Bengaluru-562157**  
**2023-24**

**SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY**

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)

Krishnadevarayanagar, Off Kempegowda International Airport Road, Hunasamaranahalli, Bengaluru – 562157

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled “MULTI-TASKING ROBO” carried out by Mr. DANESH KHYADI(1MV21EC028), Ms. DEEKSHITHA G(1MV21EC030), Mr. MUTTU B NAIK(1MV21EC051), Ms. NISHMITHA PINTO(1MV21EC058), the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



Ms. Bhuvaneswari N  
Assistant Professor  
Dept of ECE  
Sir MVIT, Bengaluru



Dr. Sasmita Mohapatra  
Professor and Head  
Dept of ECE,  
Sir MVIT, Bengaluru



PRINCIPAL  
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY  
Krishnadevarayanagar, Off Kempegowda International Airport Road, Hunasamaranahalli, Bengaluru - 562157  
Prof. Rakesh S.G.

Principal  
Sir MVIT, Bengaluru

**Head of the Department**  
Electronics & Communications Engineering  
Sir M VIT Bengaluru 562 157



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**MINI-PROJECT (21ECMP67) REPORT**

**on**

**“PRE-PROCESSING AND FEATURE EXTRACTION TECHNIQUES FOR  
HYPERSPPECTRAL IMAGE DATASET”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**

**IN**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

<b>Ayush Kumar Jha</b>	<b>1MV21EC 021</b>
<b>J Chetan Vinayaka</b>	<b>1MV21EC 039</b>
<b>Manoj Sudhir Kulkarni</b>	<b>1MV21EC 044</b>
<b>Mayank Tripathi</b>	<b>1MV21EC 045</b>

**Under the Guidance of**

**Mrs. Santhoshini S**

**Assistant professor**

**(Department of Electronics & Communication)**




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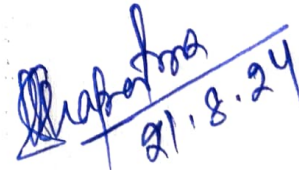
**2023-24**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

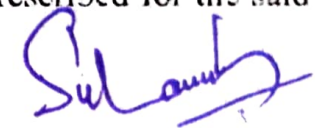
**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled “**PRE-PROCESSING AND FEATURE EXTRACTION TECHNIQUES FOR HYPERSPECTRAL IMAGE DATASET**” carried out by Mr./Ms. Ayush Kr. Jha(1MV21EC021), J Chetan Vinayaka(1MV21EC039), Manoj Sudhir Kulkarni(1MV21EC044), Mayank Tripathi(1MV21EC045) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
Mrs. Santhoshini S  
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Dr. Sasmita Mohapatra  
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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**MINI-PROJECT (21ECMP67) REPORT**  
**on**

**“Real-time wireless Embedded electronics for Soldier**  
**Security”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME OF THE STUDENTS**

**AISHWARYA K R**  
**G S CHINMAYI**  
**N NANDISH**  
**NITHIN KUMAR**

**USN**

**1MV21EC009**  
**1MV21EC035**  
**1MV21EC052**  
**1MV21EC059**

**Under the Guidance of**

**Name of the Guide**  
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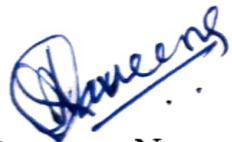
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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

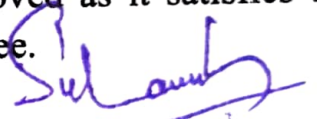
Certified that the Mini-project (21ECMP67) work entitled "Real-time wireless Embedded electronics for Soldier Security" carried out by Mr./Ms. AISHWARYA K R (1MV21EC009), G S CHINMAYI (1MV21EC035), N NANDISH (1MV21EC052), NITHIN KUMAR (1MV21EC059) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



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**MINI-PROJECT (21ECMP67) REPORT**  
**on**

**“Development of an Immersive 3D Holographic  
Display System”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**PALLAVI KUMARI**  
**SUMANA KS**

**1MV21EC064**  
**1MV21EC107**

**Under the Guidance of**  
**Santhoshini S**  
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**2023-24**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled “**Development of an Immersive 3D Holographic Display System**” carried out by Ms. Pallavi Kumari (1MV21EC064), Sumana K S (1MV21EC107), the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belagavi during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
Santhoshini S

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**MINI-PROJECT (21ECMP67) REPORT**

**on**

**“Digital Altimeter”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION**

**Submitted by**

**AMRUTA ARUN SALALLI**

**1MV21EC012**

**MEENAKSHI B**

**1MV21EC047**

**BASAVAJYOTHI C**

**1MV21EC022**

**MAITHRI K V**

**1MV21EC043**

**Under the Guidance of  
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**2023-24**

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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the mini-project (21ECMP67) work entitled “**DIGITAL ALTIMETER**” carried out by **Ms. Meenakshi B (1MV21EC047), Ms. Amruta A S (1MV21EC012), Ms. Maithri K V (1MV21EC043), Ms. Basavajyothi C (1MV21EC022)** the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technology University, Belgaum during the year 2023-24. It is certified that all correction/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfied the academic requirements for Mini-project work prescribed for the said Degree.



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**MINI-PROJECT (21ECMP67) REPORT**  
**On**

**“SENSOR BASED INDIAN COIN SEGREGATION”**

*Submitted in partial fulfillment of the requirements for the award of the degree*

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION**

**Submitted by**

<b>SINCHANA C</b>	<b>1MV21EC098</b>
<b>SUSHMA R</b>	<b>1MV21EC109</b>
<b>VARSHA K L</b>	<b>1MV21EC117</b>
<b>VINUTHRA K</b>	<b>1MV21EC122</b>

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**Professor / Dept. of ECE**



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**2023-24**



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Certified that the mini-project (21ECMP67) work entitled "SENSOR BASED INDIAN COIN SEGREGATION" carried out by Ms Sinchana C (1MV21EC098), Ms Sushma R (1MV21EC109), Ms Varsha K L (1MV21EC117), Ms Vinuthra K (1MV21EC122) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication of the Visvesvaraya Technological University, Belagavi during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said degree.



Dr R Sundaraguru

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**MINI-PROJECT (21ECMP67) REPORT**

**on**

**“Wireless Technology for healthcare”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**

**IN**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**Divyanshu Gupta**

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**Pranav**

**1MV21EC034**

**1MV21EC037**

**1MV21EC020**

**1MV21EC062**

**Under the Guidance of**

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**Dept. of ECE**



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**2023-24**

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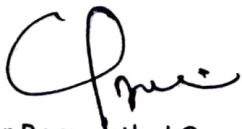
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**CERTIFICATE**

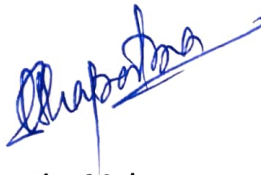
Certified that the Mini-project (21ECMP67) work entitled "Wireless Technology for healthcare" carried out by Mr. Divyanshu Gupta (1MV21EC034), Mr. Harsh Gupta (1MV21EC037), Mr. Ayush Patel (1MV21EC020) and Mr. Pranav (1MV21EC062) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



Dr Poongothai C

Associate Professor

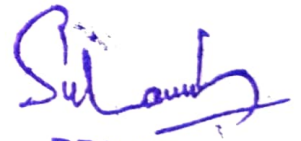
Dept. of ECE, Sir MVIT



Dr. Sasmita Mohapatra

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“HOUSEHOLD WASTE MANAGEMENT”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

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**DIVYA**

**INDU.Y.V**

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**USN**

**1MV21EC027**

**1MV21EC033**

**1MV21EC038**

**1MV21EC063**

**Under the Guidance of**

**Name of the Guide**

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**Professor, Dept. of ECE**

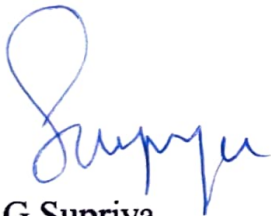


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**Bengaluru-562157**  
**2023-24**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

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Certified that the Mini-project (21ECMP67) work entitled “HOUSEHOLD WASTE MANAGEMENT” carried out by Ms. Chaitra.N(1MV21EC027), Ms.Divya(1MV21EC033), Ms.Indu.y.v(1MV21EC038),Mr.P.Rajeev(1MV21EC063)the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



Dr. V.G. Supriya  
Professor  
Dept. of ECE, Sir MVIT



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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“NON-INVASIVE GLUCOSE MONITORING**  
**SYSTEM”**

**Submitted in partial fulfillment of the requirements for the award of the degree**  
**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

<b>BINDUSHREE H S</b>	<b>1MV21EC026</b>
<b>DIPANJANA DAS</b>	<b>1MV21EC032</b>
<b>KAVYASHREE C</b>	<b>1MV21EC042</b>
<b>ASHA P</b>	<b>1MV22EC402</b>

**Under the Guidance of**

**Ms. Krishnapriya S Sharma**  
**Associate Professor, Dept. of ECE**



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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

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Certified that the Mini-project (21ECMP67) work entitled “NON-INVASIVE GLUCOSE MONITORING SYSTEM” carried out by Ms.BINDUSHREE H S(1MV21EC026),Ms. DIPANJANA DAS(1MV21EC032), Ms.KAVYASHREE C(1MV21EC042) and Ms.ASHA P(1MV22EC402) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



Ms.Krishnapriya S Sharma  
Associate Professor,  
Dept. of ECE, Sir MVIT



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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“Face recognition using IOT”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**Basaveshappa U**

**1MV21EC023**

**Osman Bin Ali**

**1MV21EC061**

**Jashwanth Gowda S**

**1MV21EC041**

**Nishanth P R**

**1MV21EC057**

**Under the Guidance of**  
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**2023-24**

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**CERTIFICATE**

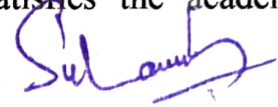
Certified that the Mini-project (21ECMP67) work entitled “Face **recognition using IOT**” carried out by Mr. Basaveshappa U(1MV21EC023), Mr. Osman Bin Ali(1MV21EC061), Mr. Jashwanth Gowda S(1MV21EC041), Nishanth P R(1MV21EC057) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



Mrs. Rajeshwari K.N.  
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JNANA SANGAMA BELAGAVI -590018**



**MINI-PROJECT (21ECMP67) REPORT  
on**

**“LPG LEAKAGE DETECTION MONITORING SYSTEM”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**MUKUND ANANT KULKARNI  
ABHISHEKA B  
DINESH M**

**1MV21EC050  
1MV22EC400  
1MV22EC404**

**Under the Guidance of  
MS. KRISHNAPRIYA S SHARMA  
ASSOCIATE PROFESSOR Dept. of ECE**



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2023-24**

**SRI KRISHNADEVARAYA EDUCATIONAL TRUST**  
**SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY**

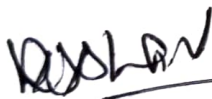
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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled “**LPG Leakage Detection Monitoring System**” carried out by Mr. Mukund Kulkarni(1MV21EC050), Dinesh M(1MV22EC404) and Abhisheka B(1MV22EC400) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



Ms. Krishnapriya S Sharma,  
Associate Professor  
Dept. of ECE, Sir MVIT



Dr. Sasmita Mohapatra,  
Professor and Head  
Dept. of ECE, Sir MVIT



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**Head of the Department**  
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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“IoT Based Camouflage Robot”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**Shivam Maurya**  
**Vikas Vishwakarma**  
**Yojit Sahu**  
**Tejus**

**1MV21EC088**  
**1MV21EC119**  
**1MV21EC124**  
**1MV21EC112**

**Under the Guidance of**

**Ms. Geetha V**  
**Assistant Professor, Dept. of ECE**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
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**Bengaluru-562157**  
**2023-24**



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**SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY**


(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)

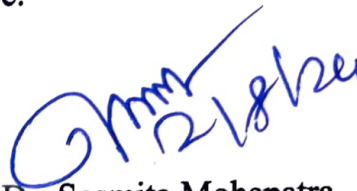
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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**


**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled "IoT based camouflage robot" carried out by Mr. Shivam Maurya(11MV21EC088), Vikas Vishwakarma(1MV21EC119), Yojit Sahu(1MV21EC124), Tejus(1MV21EC112) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
Ms. Geetha V  
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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“IoT Based Camouflage Robot”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**Shivam Maurya**  
**Vikas Vishwakarma**  
**Yojit Sahu**  
**Tejus**

**1MV21EC088**  
**1MV21EC119**  
**1MV21EC124**  
**1MV21EC112**

**Under the Guidance of**

**Ms. Geetha V**  
**Assistant Professor, Dept. of ECE**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
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**Bengaluru-562157**  
**2023-24**




**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

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Ms. Geetha V  
Assistant Professor  
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Dr. Sasmita Mohapatra  
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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“SMART DOORBELL USING RASPBERRY PI”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME OF THE STUDENTS**

**Rachana Gowda L**  
**Ramya T S**  
**Sai Raksha**  
**Sindhu R**

**USN**

**1MV21EC075**  
**1MV21EC078**  
**1MV21EC083**  
**1MV21EC099**

**Under the Guidance of**

**Ms. Seema S.**  
**Assistant Professor, Dept. of ECE**



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**2023-24**

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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled "Smart Doorbell using Raspberry Pi" carried out by Ms. Rachana Gowda L(1MV21EC075), Ms. Ramya T S(1MV21EC078), Ms. Sai Raksha(1MV21EC083) and Ms. Sindhu R(1MV21EC099) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

*Seema*  
05.8.2024

Ms. Seema S.  
Assistant Professor  
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*Mohapatra*

Dr. Sasmita Mohapatra  
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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“Efficiency of Energy in Battery Management System**  
**in Electric Vehicle’s”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**Shrutik R C**

**1MV21EC094**

**Samarth S Kittur**

**1MV21EC085**

**Swaroop S.S**

**1MV21EC110**

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**1MV21EC121**

**Under the Guidance of**

**Dr. G Shashibhushan**  
**Assistant Professor, Dept. of ECE**




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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled " **Efficiency of Energy in Battery Management System in Electric Vehicle's** " carried out by Vinith S Shetty (1MV21EC121), Samarth S Kittur (1MV21EC085), Shrutik R C (1MV21EC080) and Swaroop S.S (1MV21EC110), the bona fide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
**Dr. G Shashibhushan**

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
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**MINI-PROJECT (21ECMP67) SYNOPSIS**

**on**

**“Ambulance Navigation through traffic signals  
without any obstacles using RFID”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**

**IN**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME OF THE STUDENTS**

**Reuben Raj**  
**Vamshi Krishna**  
**Kota Rishetha**  
**Varun B Raj**

**USN**

**1MV21EC079**  
**1MV21EC114**  
**1MV21EC129**  
**1MV21EC118**

**Under the Guidance of**

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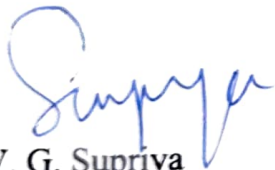


**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
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Certified that the Mini-project (21ECMP67) work entitled "Ambulance Navigation through traffic signal without any obstacles using RFID" carried out by Mr. Reuben Raj(1MV21EC079), Mr. Vamshi Krishna(1MV21EC114), Ms. Kota Rishetha(1MV21EC129), Mr. Varun B Raj(1MV21EC118), the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“Wireless Technology in Traffic Management”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**ABHISHEK GOWDA D N**  
**DARSHAN SM**  
**JAFAR SAADIQ M**  
**NAGESH V KATTIMANI**

**1MV21EC005**  
**1MV21EC029**  
**1MV21EC040**  
**1MV21EC053**

**Under the Guidance of**  
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**Associate Professor, Dept. of ECE**

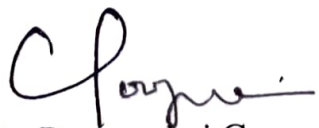


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Certified that the Mini-project (21ECMP67) work entitled “Wireless technology in traffic management “carried out by ABHISHEK GOWDA DN(1MV21EC005), Mr. DARSHANSM(1MV21EC029), Mr. JAFAR SAADIQ M(1MV21EC040), Mr. NAGESH V KATTIMANI(1MV21EC053) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



Dr. Poongothai C.  
Associate Professor  
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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“Smart Health Monitoring System from Remote**  
**Location”**

Submitted in partial fulfillment of the requirements for the award of the degree

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME OF THE STUDENTS**

Abhishek Srivastava  
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Ankit Josh  
Om Singh

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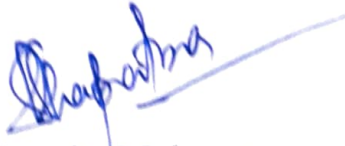
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled " Smart Health Monitoring System from Remote Location " carried out by Mr. Abhishek Srivastava(1MV21EC007), Mr. Amit(1MV21EC011), Mr. Ankit Josh(1MV21EC013), Mr. Om Singh(1MV21EC060) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



**Dr. R. Nataraja**  
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**Dr. Sasmita Mohapatra**  
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Principal  
SMVIT, Bangalore

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“Metal Detection”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME OF THE STUDENTS**  
**ANUSHKA AGARTANIYA**  
**NILANJANA DAS**

**USN**  
**1MV21EC017**  
**1MV21EC056**

**Under the Guidance of**  
**Name of the Guide**  
**MS. VIJAYALAKSHMI S.**  
**Asso. Professor, Dept. of ECE**





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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled "Metal Detection" carried out by Mr./Ms. ANUSHKA AGARTANIYA(1MV21EC017), NILANJANA DAS(1MV21EC056) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
Ms. Vijayalakshmi S.  
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Dr. Sasmita Mohapatra  
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Prof. Rakesh S.G.  
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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
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**MINI-PROJECT (21ECMP67) REPORT**

**on**

**“Event Management System using RFID”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME OF THE STUDENTS**

**Pradeepthi J  
Shilpa B  
Shivani S K  
Prema H V**

**USN**

**1MV21EC067  
1MV21EC087  
1MV21EC089  
1MV22EC407**

**Under the Guidance of  
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Professor and Head,  
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**Bengaluru-562157**

**2023-24**

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Certified that the Mini-project (21ECMP67) work entitled “**EVENT MANAGEMENT SYSTEM USING RFID**” carried out by Ms. Pradeepthi J(1MV21EC067), Shilpa B(1MV21EC087), Shivani S K (1MV21EC089), Prema H V(1MV22EC407) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



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Dr. Sasmita Mohapatra  
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**MINI-PROJECT (21ECMP67) REPORT**

**on**

**“Raspberry Pi Based Fire and Smoke Alert System”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**Roshni Das**

**1MV21EC080**

**Shreedhi Gupta**

**1MV21EC091**

**Suhas Kattimani**

**1MV21EC105**

**Yash Raj**

**1MV21EC123**

**Under the Guidance of**

**Ms. Seema S.**

**Assistant Professor, Dept. of ECE**



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**2023-24**



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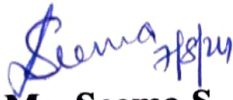
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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled " **Raspberry Pi Based Fire and Smoke Alert System**" carried out by Yash Raj (1MV21EC123), Suhas Kattimani (1MV21EC105), Roshni Das (1MV21EC080) and Shreedhi Gupta (1MV21EC091), the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
**Ms. Seema S.**

Assistant Professor

Dept of ECE

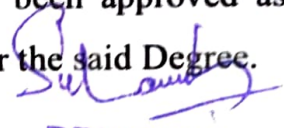
Sir MVIT, Bengaluru

  
**Dr. Sasmita Mohapatra**

Professor & Head

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Sir MVIT, Bengaluru

  
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Principal

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“IOT based Energy in Dual Battery Management**  
**System in EV”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

Bhaskar Mondal	- 1MV21EC024
Abhishek Kumar	- 1MV21EC006
Abhyudaya Dubey	- 1MV21EC008
Aman Kumar	- 1MV21EC010

**Under the Guidance of**

**Dr. G. Shashibhushan**  
**Assistant Professor**  
**Dept. of ECE**



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Bengaluru-562157**  
**2023-24**

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**SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY**

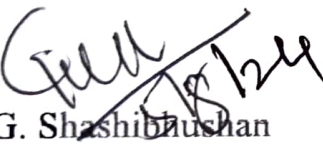
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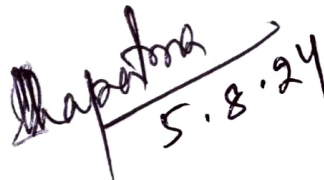
Krishnadevarayanagar, Off Kempegowda International Airport Road, Hunasamaranahalli, Bengaluru - 562 157

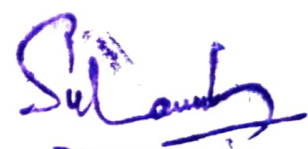
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled "IOT based Energy in Dual Battery Management System in EV" carried out by Mr. Bhaskar Mondal (1MV21EC024), Mr. Abhishek Kumar (1MV21EC006), Mr. Abhyudaya Dubey (1MV21EC008) and Mr. Aman Kumar (1MV21EC010), the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
Dr. G. Shashibhushan  
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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“WIRELESS CHARGING FOR ELECTRIC**  
**VEHICLES”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

<b>-A SHREYA</b>	<b>1MV21EC001</b>
<b>RAKSHITHA NAYAK</b>	<b>1MV21EC077</b>
<b>SINDHUR SAI ANNE</b>	<b>1MV21EC100</b>
<b>VIKSHITHA V</b>	<b>1MV21EC120</b>

**Under the Guidance of**

**Mr. Phanindar Ravi P**  
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**2023-24**

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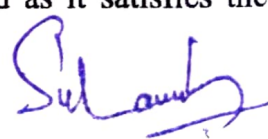
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled “**WIRELESS CHARGING FOR ELECTRIC VEHICLES**” carried out by Ms. A Shreya(1MV21EC001), Ms. Rakshitha Nayak(1MV21EC077), Mr. Sindhur Sai Anne(1MV21EC100), Ms. Vikshitha V(1MV21EC120) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
Mr. Phanindar Ravi P  
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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“IOT Based Fall Detection System”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME OF THE STUDENTS**

**Chinthana S N**  
**Shreya Nandani**  
**Sahil J Jadhav**  
**Jatin Sharma**

**USN**

**1MV21EC125**  
**1MV21EC092**  
**1MV21EC082**  
**1MV21EC130**

**Under the Guidance of**

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**Assistant Prof., Dept. of ECE**



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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Bengaluru-562157**  
**2023-24**



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# SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

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## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

### CERTIFICATE

Certified that the Mini-project (21ECMP67) work entitled “IOT Based Fall Detection System” carried out by Ms. Chinthana S N(1MV21EC125), Ms. Shreya Nandani(1MV21EC092), Mr. Sahil J Jadhav(1MV21EC082), Mr. Jatin Sharma(1MV21EC130), the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



Praveen N  
Assistant Professor  
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Dr. Sasmita Mohapatra  
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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“IOT Based Fall Detection System”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME OF THE STUDENTS**

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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**Bengaluru-562157**  
**2023-24**

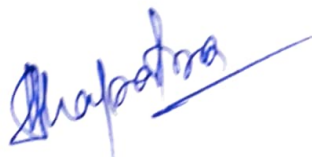
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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**"SOLAR WIRELESS ELECTRIC VEHICLE**  
**CHARGING SYSTEM"**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION**

**Submitted by**

<b>Sreenivasa Heggade D</b>	<b>1MV21EC103</b>
<b>Sri Rama Chaithanya</b>	<b>1MV21EC104</b>
<b>Shashank S</b>	<b>1MV21EC081</b>
<b>Thilak Chandar R</b>	<b>1MV21EC113</b>

**Under the Guidance of**  
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**2023-24**

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**(Krishnadevarayanagar, Hunasamaranahalli, Bengaluru – 562 157)**


**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled “ **SOLAR WIRELESS ELECTRIC VEHICLE CHARGING SYSTEM** ”carried out by Mr. Sreenivasa Heggade D (1MV21EC103), Mr.SriRamaChaithanya (1MV21EC104), Mr. Shashank S (1MV21EC081), Mr Thilak Chandar R (1MV21EC113) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

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**Shilpa Chippalakatti**  
Assistant professor  
Dept. of ECE, Sir MVIT

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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“ENHANCED UTILIZATION OF OFDM**  
**BANDWIDTH”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**MITHIL DHONDI**  
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**AASHVIK B.**  
**ANURAG W.**

**1MV21EC048**  
**1MV21EC002**  
**1MV21EC003**  
**1MV21EC016**

*Mithil Dhondi*  
*AV Rishi*  
*Aashvik*  
*Anurag*

**Under the Guidance of**  
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**Assistant professor, Dept. of ECE**



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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

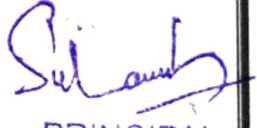
**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled “**ENHANCED UTILIZATION OF OFDM BANDWIDTH**” carried out by Mr. Mithil Dhondi(1MV21EC048), Mr. A. V. Rishi(1MV21EC002), Mr. Aashvik B(1MV21EC003), Mr. Anurag W(1MV21EC016) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**MINI-PROJECT (21ECMP67) SYNOPSIS**  
**on**  
**“IOT BASED WOMEN SAFETY SYSTEM”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME**

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Praveen kumar N  
Sujan H V  
Sanjay G

**USN**

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1MV22EC406  
1MV21EC106  
1MV21EC086

**Under the Guidance of**

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**Associate Professor**



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**2023-24**

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Certified that the Mini-project (21ECMP67) work entitled “ **IOT based on women's safety system**” carried out by Mr. Vinayak Hippargi(1MV22EC411), Mr. Sujan H V (1MV21EC106), Mr. Praveen Kumar N (1MV22EC406), Mr. Sanjay G.(1MV21EC086) the Bonafede students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
Ms. Vijayalakshmi S  
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Dr. Sasmita Mohapatra  
Professor and Head  
Dept. of ECE, Sir MVIT

  
Prof. Rakesh S.G.  
Principal  
Sir MVIT, Bengaluru

**Head of the Department**  
Electronics & Communications Engineering  
Sir M VIT Bangalore 562





**MINI-PROJECT (21ECMP67)REPORT**  
**on**  
**“Machine Learning Algorithm For Chronic Kidney**  
**Disease Prediction”**

**Submitted in partial fulfillment of the requirements for the award of the degree**  
**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

PriyanshuKumar	- 1MV21EC072
Shubham Bharti	- 1MV21EC095
Saket Suman	- 1MV21EC084
Sumit Singh	- 1MV21EC108

**Under the Guidance of**

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**Assistant Professor**  
**Dept. of ECE**



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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
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**2023-24**

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157

## **DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

### **CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled “Machine Learning Algorithm for Chronic Kidney Disease Prediction” carried out by Mr. Saket Suman(1MV21EC084), Shubham Bharti(1MV21EC095), Priyanshu Kumar(1MV21EC072), Sumit Singh(1MV21EC108), the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

Mrs. Shilpa Chippalakatti  
Asst. Professor  
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Dr. Sasmita Mohapatra  
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Prof. Rakesh S.G  
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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**MINI-PROJECT (21ECMP67) REPORT**  
**on**

**“Identification of a Person using Finger Image”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

<b>ANSHU KUMAR ROY</b>	<b>- 1MV21EC024</b>
<b>DHIRAJ RAI</b>	<b>-1MV21EC031</b>
<b>NEERAJ KUMAR</b>	<b>-1MV21EC054</b>

**Under the Guidance of**

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**Assistant Professor**  
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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

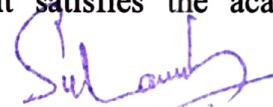
Certified that the Mini-project (21ECMP67) work entitled "Identification Of a Person Using Finger Image" carried out by Mr. ANSHU KUMAR R0Y (1MV21EC015), Mr. DHIRAJ RAI (1MV21EC031), and Mr. NEERAJ KUMAR (1MV21EC054), the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



Mrs. Geetha.V  
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Dr. Sasmita Mohapatra  
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**MINI-PROJECT (21ECMP67) REPORT**  
**on**

**“Design and performance analysis of NoC**  
**Routing algorithms”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

Pratik Raj	- 1MV21EC068
Priyanshu Kumar Verma	- 1MV21EC073
Purushuttam Kumar	- 1MV21EC074
Shoaib Khan	- 1MV21EC090

**Under the Guidance of**

**Ms. Seema Sreekumar**

**Assistant Professor**

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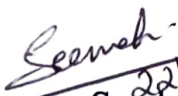
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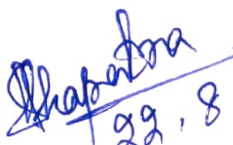
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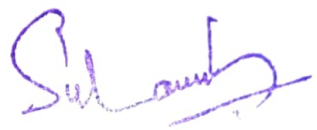
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled “**Design and performance analysis of NoC Routing algorithms**” carried out by Pratik Raj (1MV21EC068), Priyanshu Kumar Verma (1MV21EC073), Purushuttam Kumar(1MV21EC074) and Shoaib Khan (1MV21EC090) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
22/8/24  
Ms Seema Sreeekumar  
Assistant Professor  
Dept. of ECE, Sir MVIT

  
22.8.24  
Dr. Sasmita Mohapatra  
Professor and Head  
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SRI KRISHNADEVARAYA EDUCATIONAL TRUST

# SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY


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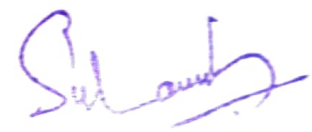
## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“Industry Released Water Pollution Alarming**  
**System”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**Shubham Murarka**  
**Sombhit Sarkhel**  
**Rajveer Singh**  
**Preetam S.**

**1MV21EC097**  
**1MV21EC101**  
**1MV21EC076**  
**1MV21EC070**

**Under the Guidance of**

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**Associate Professor, Dept. of ECE**



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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

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**MINI-PROJECT (21ECMP67) REPORT**  
**on**

**“LNA Design for Improving Image Resolution”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
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**Submitted by**

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**SHUBHAM JAIN**

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**1MV21EC115**  
**1MV21EC096**

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**2023-24**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

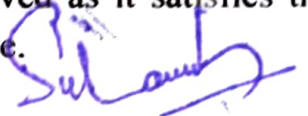
Certified that the Mini-project (21ECMP67) work entitled “LNA Design for Improving Image Resolution” carried out by Manav Sharma(1MV21EC126), Utkarsh Kumar(1MV21EC116), Ujjwal(1MV21EC115), Shubham Jain(1MV21EC096) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“DESIGN & ANALYSIS OF LOW PROFILE ULTRA-WIDE BAND**  
**ANTENNA FOR RADAR”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
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**Under the Guidance of**  
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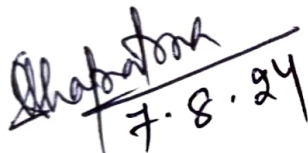
**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**  
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**2023-24**



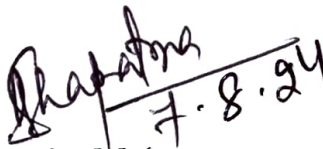
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

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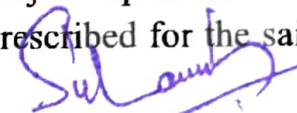
Certified that the Mini-project (21ECMP67) work entitled “**DESIGN AND ANALYSIS OF LOW PROFILE ULTRA WIDE BAND ANTENNA FOR RADAR**” carried out by Mr. Pavan Kumar N (1MV21EC065), Prithvi R Patil (1MV21EC071), Shreyas Y S (1MV21EC093) and TARUN V (1MV21EC111) the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
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Dept. of ECE, Sir MVIT

  
7.8.24

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**VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
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**MINI-PROJECT (21ECMP67) SYNOPSIS**

**on**

**“DESIGN OF OWC USING MODIFIED DUOBINARY  
RZ FOR BENGALURU RAINY CONDITIONS”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**ARPITA S BHAT  
HANSIKA G A  
MONISHA D R  
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**1MV21EC018  
1MV21EC036  
1MV21EC049  
1MV22EC408**

**Under the Guidance of :  
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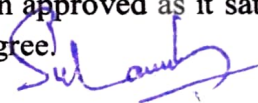
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled “ **Design of OWC Using Modified Duobinary RZ For Bengaluru Rainy Conditions**” carried out by **Ms. Arpita S Bhat(1MV21EC018)**, **Ms. Hansika G A (1MV21EC036)**, **Ms. Monisha D R (1MV21EC049)**, **Mr. Raghavendra(1MV21EC408)** the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.

  
**Vijayashri V. Belgaonkar**  
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**MINI-PROJECT (21ECMP67) REPORT**

**on**

**“COLOR AND SHAPE IDENTIFICATION MACHINE”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING  
IN  
ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

**NAME OF THE STUDENTS:**

**AKHIL KUMAR  
CHINNARAJ P  
G M ABDUL KADRI SINAN  
SANGMESH**

**USN:**

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1MV22EC403  
1MV22EC405  
1MV22EC410**

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ASSISTANT PROFESSOR  
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2023-24**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**JNANA SANGAMA, BELAGAVI -590018**



**MINI-PROJECT (21ECMP67) REPORT**

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
Bengaluru-562157  
2023-24**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CERTIFICATE**

Certified that the Mini-project (21ECMP67) work entitled " COLOR AND SHAPE IDENTIFICATION MACHINE " carried out by Mr. Akhil Kumar(1MV22EC401), Chinnaraj P(1MV22EC403), G M Abdul Kadri Sinan(1MV22EV405), Sangmesh(1MV22EC410), the bonafide students of Sir M. Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2023-24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements for Mini-Project work prescribed for the said Degree.



**Ms. Bhuvaneshwari N**

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**Dr. Sasmita Mohapatra**

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**MINI-PROJECT (21ECMP67) REPORT**  
**on**  
**“Mixer Block Of GPR”**

**Submitted in partial fulfillment of the requirements for the award of the degree**

**BACHELOR OF ENGINEERING**  
**IN**  
**ELECTRONICS AND COMMUNICATION ENGINEERING**

**Submitted by**

<b>ANKIT KUMAR</b>	<b>- 1MV21EC014</b>
<b>ABHINAV RAJ</b>	<b>- 1MV21EC004</b>
<b>KUMAR GAURAV</b>	<b>- 1MV21EC127</b>
<b>KUSHAGRA ANSHU</b>	<b>- 1MV21EC128</b>

**Under the Guidance of**

**Ms. Shalini.P**  
**Associate Professor, Dept. of ECE**



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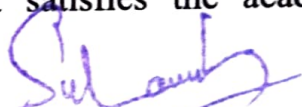
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**CERTIFICATE**

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