

# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



Jnana Sangama, Belagavi - 590018

A Project Work Phase-2 (18CSP83)

Report on

## “EXCESS FOOD MANAGEMENT AND DONATION APP”

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*

**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

<b>Samyuktha Madhav</b>	<b>1KG20CS098</b>
<b>Sidapara Nancy Arvindkumar</b>	<b>1KG20CS101</b>
<b>Vibha M</b>	<b>1KG20CS118</b>
<b>Yashitha T</b>	<b>1KG20CS123</b>

Under the guidance of

**Mrs. Jayashubha J**

**Associate Professor**

**Department of Computer Science & Engineering**

**KSSEM, Bengaluru-56010**



**K. S. School of Engineering and Management**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109**

**2023 - 2024**



**K. S. School of Engineering and Management**  
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**Department of Computer Science & Engineering**

CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "EXCESS FOOD MANAGEMENT AND DONATION APP" is a bonafide work carried out by:

<b>Samyuktha Madhav</b>	<b>1KG20CS098</b>
<b>Sidapara Nancy Arvindkumar</b>	<b>1KG20CS101</b>
<b>Vibha M</b>	<b>1KG20CS118</b>
<b>Yashitha T</b>	<b>1KG20CS123</b>

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by **Visvesvaraya Technological University, Belagavi** during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

.....  
**Signature of the Guide**  
[Mrs. Jayashubha J]  
Associate Professor, CSE  
KSSEM

.....  
**Signature of the HOD**  
[Dr. K Venkata Rao]  
Professor & Head, CSE  
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HOD

Department of Computer Science Engineering  
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.....  
**Signature of the Principal**  
[Dr. K Rama Narasimha]  
Principal  
KSSEM

Dr. K. RAMA NARASIMHA  
Principal/Director  
K S School of Engineering and Management  
Bengaluru - 560 109

# Visvesvaraya Technological University

Jnana Sangama, Belagavi - 590018



A Project Work Phase-2 (18CSP83)

Report on

**“AUTOMATIC VISUAL SURVEILLANCE SYSTEM TO DETECT  
DROWNING INCIDENTS IN SWIMMING POOLS”**

*Project Phase 2 Report submitted in partial fulfilment of the requirement  
for the award of the degree of*  
**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

Gautham Narkodu	1KG20CS039
Eshwar Sai Chandra	1KG20CS036
Divya Lakshmi J.H.	1KG20CS032
Chinmay N.M.	1KG20CS021

Under the guidance of

Mrs.Nita Meshram

Associate Professor

Department of Computer Science & Engineering

KSSEM - 560109



**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

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**2023 – 2024**



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Department of Computer Science & Engineering


## CERTIFICATE



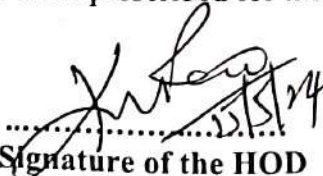
Certified that the Project Work Phase-2 (18CSP83) entitled “AUTOMATIC VISUAL SURVEILLANCE SYSTEM TO DETECT DROWNING INCIDENTS IN SWIMMING POOLS” is a bona fide work carried out by:

Gautham Narkodu	1KG20CS039
Eshwar Sai Chandra	1KG20CS036
Divya Lakshmi J.H.	1KG20CS032
Chinmay N.M.	1KG20CS021

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of September 2023 to January 2024. It is certified that all the corrections and suggestions indicated by **Mrs. Supriya Suresh**, Assistant Professor, **Mrs. Nita Meshram**, Associate Professor, **Mrs. Meena G**, Associate Professor, **Mrs. Nagaveni Nimbale**, Associate Professor, Department of Computer Science & Engineering for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

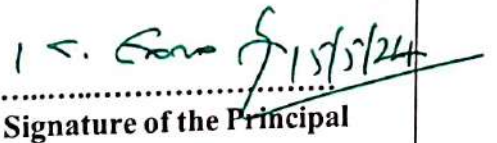
  
.....  
Signature of the Guide

Mrs. Nita Meshram  
Associate Professor, CSE  
K.S.S.E.M., Bengaluru

  
.....  
Signature of the HOD

Dr. K Venkata Rao  
Professor & Head, CSE  
K.S.S.E.M., Bengaluru

HOD

  
.....  
Signature of the Principal

Dr. K Rama Narasimha  
Principal / Director  
K.S.S.E.M., Bengaluru  
Dr. K. RAMA NARASIMHA

Principal/Director



# Visvesvaraya Technological University

Jnana Sangama, Belagavi - 590018



A Project Work Phase - 2 (18CSP83)

Report on

**“RO Wastewater Management-Smart Drip Irrigation and Real-time Water Quality Monitoring using IoT”**

*Project Report submitted in partial fulfillment of the requirements for the award of the degree of*

**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

Submitted by

Anurag Appaji Patil	1KG20CS005
Aravind M	1KG20CS006
C P Omkar Rawath	1KG20CS015
Charan M J	1KG20CS018

Under the Guidance of

**Mrs. Sougandhika Narayan**

Assistant Professor,

Department of Computer Science & Engineering

KSSEM, Bengaluru - 560109



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2023-2024

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## Department of Computer Science & Engineering



### CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "RO Wastewater Management-Smart Drip Irrigation and Real-time Water Quality Monitoring using IoT" is a bonafide work carried out by:

Anurag Appaji Patil	-1KG20CS005
Aravind M	-1KG20CS006
C P Omkar Rawath	-1KG20CS015
Charan M J	-1KG20CS018

in partial fulfillment for VIII semester B.E, Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-II Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

  
Signature of the Guide

[ Mrs. Sougandhika Narayan ]  
Assistant Professor, CSE  
K.S.S.E.M, Bengaluru

  
Signature of the HOD

[ Dr. K Venkata Rao ]  
Professor & Head, CSE  
K.S.S.E.M, Bengaluru

HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

  
Signature of the Principal

[ Dr. K Rama Narasimha ]  
Principal/Director  
K.S.S.E.M, Bengaluru

Dr. K. RAMA NARASIMHA  
Principal/Director  
K S School of Engineering and Management  
Bengaluru - 560 109



# Visvesvaraya Technological University

Jnana Sangama, Belagavi - 590018



PROJECT WORK PHASE-2  
REPORT ON

## “DEMENTIA PREDICTOR”

*Project Phase 2 Report submitted in partial fulfillment of the  
requirement for the award of the degree of  
BACHELOR OF ENGINEERING*

IN

COMPUTER SCIENCE AND ENGINEERING

Submitted by

MEGHANA M

1KG20CS063

VAISHNAVI N BHAT

1KG20CS113

Under the guidance of

**Mrs. Supriya Suresh**

**Assistant Professor**

Department of Computer Science & Engineering  
KSSEM, Bengaluru-560109



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Department of Computer Science & Engineering



## CERTIFICATE

This is to certify that the Project Work Phase-2 (18CSP77) entitled "Dementia Predictor" is a bonafide work carried out by:

**MEGHANA M**

**1KG20CS063**

**VAISHNAVIN BHAT**

**1KG20CS113**

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by **Visvesvaraya Technological University, Belagavi** during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

*Supriya Suresh*  
.....  
Signature of the Guide

**Mrs. Supriya Suresh**  
Assistant Professor  
K.S.S.E.M., Bengaluru

*Dr. K Venkata Rao*  
.....  
Signature of the HOD

**Dr. K Venkata Rao**  
Professor & Head, CSE  
K.S.S.E.M., Bengaluru

*Dr. K Rama Narasimha*  
.....  
Signature of the Principal

**Dr. K Rama Narasimha**  
Principal / Director  
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HOD  
Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

**Dr. K. RAMA NARASIMHA**  
Principal/Director  
K.S School of Engineering and Management  
Bengaluru - 560 109



# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



Jnana Sangama, Belagavi - 590018

A Project Work Phase-2 (18CSP83)

Report on

## “ASTHMA PREDICTION AND MONITORING”

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*

**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

RAKSHITHA A	1KG20CS088
NISCHITHA M	1KG20CS074
MONISHA M	1KG20CS067
NISHA M	1KG20CS075

Under the guidance of

**Mrs. KAVITHA K S**

**ASSISTANT PROFESSOR**

**Department of Computer Science & Engineering**

**KSSEM, Bengaluru-560109**



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## CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "Asthma Prediction and Monitoring" is a bonafide work carried out by:

RAKSHITHA A	1KG20CS088
NISCHITHA M	1KG20CS074
MONISHA M	1KG20CS067
NISHA M	1KG20CS075


in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

  
.....  
Signature of the Guide

Mrs. Kavitha K S  
Assistant Professor, CSE  
K.S.S.E.M., Bengaluru

  
.....  
Signature of the HOD

Dr. K Venkata Rao  
Head of Department, CSE  
K.S.S.E.M., Bengaluru  
HOD  
Department of Computer Science Engineering  
K.S School of Engineering & Management  
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.....  
Signature of the Principal

Dr. K Rama Narasimha  
Principal/Director,  
K.S.S.E.M., Bengaluru  
Dr. K. RAMA NARASIMHA  
Principal/Director  
K S School of Engineering and Management  
Bengaluru - 560 109



# Visvesvaraya Technological University

"Jnana Sangama", Belagavi – 590018



## PROJECT WORK PHASE-2 (18CSP83) REPORT ON

**“PREDICTION OF WINE QUALITY USING MACHINE LEARNING”**  
*Project Phase 2 Report submitted in partial fulfilment of the requirement for  
the award of the degree of*

## BACHELOR OF ENGINEERING IN COMPUTER SCIENCE AND ENGINEERING

Submitted by

Ananya P	1KG20CS003
Ashritha M	1KG20CS007
Bhavana H S	1KG20CS010
Chethana B M	1KG20CS020

Under the guidance of  
**Ms. Puneetha M R**  
Asst. Prof, CSE, KSSEM  
Department of Computer Science & Engineering  
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2023 – 2024



# K. S. School of Engineering and Management

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## Department of Computer Science & Engineering

### CERTIFICATE

Certified that the **Project Work Phase-2 (18CSP83)** entitled **“PREDICTION OF WINE QUALITY USING MACHINE LEARNING”** is a bonafide work carried out by:

Ananya P	1KG20CS003
Ashritha M	1KG20CS007
Bhavana H S	1KG20CS010
Chethana B M	1KG20CS020

in partial fulfilment for **VIII semester of Bachelor of Engineering**, Project Work in the branch of **Computer Science and Engineering** prescribed by **Visvesvaraya Technological University, Belagavi** during the period of **February 2024 to May 2024**. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The **Project Work Phase-2 Report** has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

*Puneetha*

.....  
Signature of the Guide

**Ms. Puneetha M R**  
Assistant Professor, CSE  
K.S.S.E.M., Bengaluru

*K. Venkata Rao*

.....  
Signature of the HOD

**Dr. K Venkata Rao**  
Professor & Head, CSE  
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HOD

*K. Rama Narasimha*

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Signature of the Principal

**Dr. K Rama Narasimha**  
Principal/Director  
K.S.S.E.M., Bengaluru

**Dr. K. RAMA NARASIMHA**

Department of Computer Science Engineering  
K.S School of Engineering & Management  
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Principal/Director

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# Visvesvaraya Technological University

Jnana Sangama, Belagavi - 590018



A Project Work Phase - 2 (18CSP83)

Report on

## “AUTOMATIC DETECTION AND CLASSIFICATION OF DIABETIC EYE DISORDERS”

*Project Report submitted in partial fulfillment of the requirements for the award of  
the degree of*

**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

Submitted by

Deeksha B	1KG20CS024
Charishma C	1KG20CS019
Jyothsna B	1KG20CS014
Bhoomika T	1KG20CS012

Under the Guidance of

**Mrs. NITA MESHRAM**

Associate Professor,

Department of Computer Science & Engineering KSSEM,  
Bengaluru - 560109



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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

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#15, Mallasandra, Off, Kanakapura Road, Bengaluru - 560109

## Department of Computer Science & Engineering



### CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled “Automatic detection and classification of diabetic eye disorders” is a bonafide work carried out by:

Deeksha B	1KG20CS024
Charishma C	1KG20CS019
Jyothsna B	1KG20CS014
Bhoomika T	1KG20CS012

in partial fulfillment for VIII semester B.E, Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-II Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

Signature of the Guide

[ Mrs. Nita Meshram ]  
Associate Professor, CSE  
K.S.S.E.M, Bengaluru

Signature of the HOD

[ Dr. K Venkata Rao ]  
Professor & Head, CSE  
K.S.S.E.M, Bengaluru  
HOD

Signature of the Principal

[ Dr. K Rama Narasimha ]  
Dr. K. RAMA NARASIMHA  
Principal, Director

K S School of Engineering and Management  
Bengaluru - 560 109

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109



# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



**Jnana Sangama, Belagavi - 590018**

**A Project Work Phase-2 (18CSP83)**

**Report on**

## **“EFFICIENT RISK PREDICTION IN PREGNANCY USING BASIC VITALS”**

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*

**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

**NANDINI M N**

**1KG20CS070**

**NITHYA K**

**1KG20CS079**

**RAKSHITHA H C**

**1KG20CS089**

**Under the guidance of**

**Mrs. MEENA G**

**ASSISTANT PROFESSOR**

**Department of Computer Science & Engineering**

**KSSEM, Bengaluru-560109**



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K. S. SCHOOL OF ENGINEERING AND MANAGEMENT

**K. S. School of Engineering and Management**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109**

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Department of Computer Science & Engineering

## CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "Efficient Risk Prediction in Pregnancy Using Basic Vitals" is a bonafide work carried out by:

NANDINI M N	1KG20CS070
NITHYA K	1KG20CS079
RAKSHITHA H C	1KG20CS089

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

.....  
Signature of the Guide

Mrs. Meena G  
Assistant Professor, CSE  
K.S.S.E.M., Bengaluru

.....  
Signature of the HOD

Dr. K Venkata Rao  
Head of Department, CSE  
K.S.S.E.M., Bengaluru

.....  
Signature of the Principal

Dr. K Rama Narasimha  
Principal/Director,  
K.S.S.E.M., Bengaluru

HOD  
Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

Dr. K. RAMA NARASIMHA  
Principal/Director  
K.S School of Engineering and Management  
Bengaluru - 560 109



# Visvesvaraya Technological University

Jnana Sangama, Belagavi - 590018



A Project Work Phase-2 (18CSP83)

Report on

## “Sepsis Prediction”

*Project Report submitted in partial fulfilment of the requirement for the  
award of the degree of*

**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

Nikhil KH	1KG20CS073
Prithvi Raj	1KG20CS085
Rahul BM	1KG20CS086
Sagar Naidu	1KG20CS095

Under the guidance of  
Mrs. Nagaveni B Nimbai  
Associate Professor  
Department of Computer Science & Engineering  
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**K. S. School of Engineering and Management**

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2023 - 2024





# K. S. School of Engineering and Management

#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109

Department of Computer Science & Engineering

## CERTIFICATE

Certified that the Project Work Phase-2 (18CSP83) entitled “ SEPSIS PREDICTION ” is a bonafide work carried out by: Nikhil KH (1KG20CS073), Prithvi Raj (1KG20CS085) , Rahul BM (1KG20CS086) , Sagar Naidu N (1KG20CS095) in partial fulfilment for VII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by **Visvesvaraya Technological University, Belagavi** during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

.....  
Signature of the Guide  
Mrs. Nagaveni B Nimbhal  
Associate Professor  
K.S.S.E.M, Bengaluru

.....  
Signature of the HOD  
Dr. K Venkata Rao  
Professor, Head of the Dept.,  
K.S.S.E.M, Bengaluru

HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management K S School of Engineering and Management  
Bangalore-560109

.....  
Signature of the Principal  
Dr. K Rama Narasimha  
Principal/Director,  
K.S.S.E.M, Bengaluru  
Dr. K. RAMA NARASIMHA  
Prindpal/Director

Bengaluru - 560 109



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY "Janana  
Sangama", Belagavi-590018**



**Project Work Phase-2 (18CSP77)**

**Report on**

**“EV SMART CHARGING STATION”**

*Project Phase 2 Report submitted in partial fulfilment of the requirement for the award of the  
degree of*

**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

<b>Shruthi M</b>	<b>1KG20CS100</b>
<b>Vadiraj R Nadig</b>	<b>1KG20CS112</b>
<b>Veluru Bhanuprasad</b>	<b>1KG20CS116</b>
<b>Vinay A</b>	<b>1KG20CS121</b>

**Under the guidance of**

**Mrs.N Deepashree**

**Assistant Professor**

**Department of Computer Science & Engineering KSSEM,  
Bengaluru-560109**



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K. S. SCHOOL OF ENGINEERING AND MANAGEMENT

**K. S. School of Engineering and Management  
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109**

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**Department of Computer Science & Engineering**



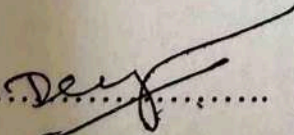
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K.S. SCHOOL OF ENGINEERING AND MANAGEMENT

## CERTIFICATE

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is a bonafide work carried out by:

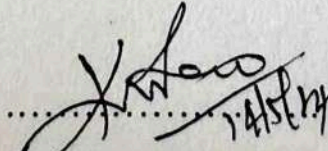
<b>Shruthi M</b>	<b>1KG20CS100</b>
<b>Vadiraj R Nadig</b>	<b>1KG20CS112</b>
<b>Veluru Bhanuprasad</b>	<b>1KG20CS116</b>
<b>Vinay A</b>	<b>1KG20CS121</b>

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of January 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.



Signature of the Guide

**Mrs.N Deepashree**  
Assistant Professor, CSE  
K.S.S.E.M., Bengaluru.

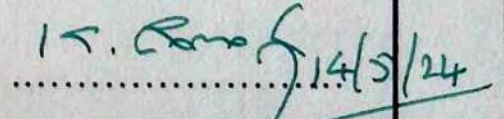


Signature of the HOD

**Dr.K VenkataRao**  
Professor & Head, CSE  
K.S.S.E.M., Bengaluru.

HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
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Signature of the Principal

**Dr.K Rama Narasimha**  
Principal / Director  
K.S.S.E.M., Bengaluru.

**Dr. K. RAMA NARASIMHA**  
Principal/Director

**K.S School of Engineering and Management**  
Bengaluru - 560 109



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**Jnana Sangama, Belagavi – 590018**



**Jnana Sangama, Belagavi - 590018**

A Project Work Phase-2 (18CSP83)

Report on

**“BLUETOOTH ENABLED FINGERPRINT LOCK ”**

*Project Phase 2 Report submitted in partial fulfilment of the requirement for the  
award of the degree of*

**BACHELOR OF ENGINEERING  
IN  
COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

**NAVEEN V                      1KG20CS072**

**DINESH S                      1KG20CS094**

**SIDDHARTH GANESAN      1KG20CS102**

**VENKATESH DJ              1KG20CS117**

Under the Guidance of

**Mrs.Nagaveni B Nimbale**  
**Associate Professor, Dept.of**  
**CSE,**

**K S School of Engineering and Management**



**KSSEM**  
K.S. SCHOOL OF ENGINEERING AND MANAGEMENT

Department of Computer Science and Engineering  
K.S. School of Engineering and Management  
No. 15, Mallasandra, off Kanakapura Road, Bengaluru-560109

**2023-2024**





**KSSEM**  
K.S. SCHOOL OF ENGINEERING AND MANAGEMENT

**K.S. SCHOOL OF ENGINEERING AND MANAGEMENT  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**CERTIFICATE**

Certified that the Project Work Phase-2 (18CSP83) entitled “ **BLUETOOTH ENABLED FINGERPRINT LOCK**” is a bonafide work carried out by: Naveen V (1KG20CS072) , Dinesh S (1KG20CS094), Siddharth Ganesan (1KG20CS102), Venkatesh DJ(1KG20CS117) in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by **Visvesvaraya Technological University, Belagavi** during the period of September 2023 to January 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

.....  
**Signature of the Guide**  
[Mrs. Nagaveni B Nimbal]  
Associate Professor, CSE  
KSSEM

.....  
**Signature of the HOD**  
[Dr. K Venkata Rao]  
Professor & Head, CSE  
KSSEM  
HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

.....  
**Signature of the Principal**  
[Dr. K Rama Narasimha]  
**DR. K RAMA NARASIMHA**  
Principal/Director  
KSSEM  
K S School of Engineering and Management  
Bangaluru - 560 109



# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



**Jnana Sangama, Belagavi - 590018**

**A Project Work Phase-2 (18CSP83)**

Report on

**“SMART STICK FOR BLIND PEOPLE”**

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*

**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

DHIKSHITH T	1KG20CS029
GAUTHAM BJ	1KG20CS038
D TEJESH	1KG20CS022
J SASIDHAR	1KG20CS048

Under the guidance of

**Mrs. Belji.T**

**Assistant Professor**

**Department of Computer Science & Engineering KSSEM,  
Bengaluru-560109**



**KSSEM**  
KANNADA STATE SOCIETY OF ENGINEERING AND MANAGEMENT

**K. S. School of Engineering and Management**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109**

**2023 - 2024**





# K. S. School of Engineering and Management

#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109

Department of Computer Science & Engineering

## CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "SMART STICK FOR BLIND PEOPLE" is a bonafide work carried out by:

DHIKSHITH	T	1KG20CS029
GAUTHAM	BJ	1KG20CS038
D TEJESH		1KG20CS022
J SASIDHAR		1KG20CS048

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

Signature of the Guide

[Mrs Belji T]  
Assistant professor, CSE,  
KSSEM, Bengaluru

Signature of the HOD

[Dr. K Venkata Rao]  
Professor & Head, CSE,  
KSSEM, Bengaluru  
HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

Signature of the Principal

[Dr. K Rama Narasimha]  
Principal & Director  
KSSEM, Bengaluru

Dr. K. RAMA NARASIMHA  
Principal/Director

K S School of Engineering and Management  
Bengaluru - 560 109



# Visvesvaraya Technological University



Jnana Sangama, Belagavi - 590018

A Project Work Phase-2 (18CSP83)

Report on

**“Energy Harvesting While Walking”**

*Project Report submitted in partial fulfilment of the requirement for the award  
of the degree of*

**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

Submitted by

**Suchithra M B -1KG20CS105**

**V Yashwanth Naidu -1KG20CS111**

**Vikrama C -1KG20CS120**

**Vishwanath Vivek -1KG20CS122**

Under the guidance of

**Mrs. SUSHMITHA SURESH**

Assistant Professor

Department of Computer Science & Engineering

KSSEM, Bengaluru-560109



**K. S. School of Engineering and Management**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**#15, Mallasandra, off. Kanakapura Road, Bengaluru- 560109**

**2023 – 2024**





# K. S. School of Engineering and Management

#15, Mallasandra, off. Kanakapura Road, Bengaluru- 560109

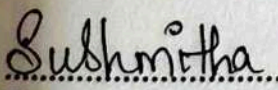
Department of Computer Science & Engineering

## CERTIFICATE

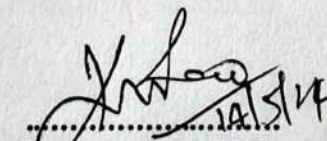
Certified that the Project Work Phase-2 (18CSP83) entitled "Energy Harvesting While Walking" is a bonafide work carried out by:

SUCHITHRA M B	1KG20CS105
V YASHWANTH NAIDU	1KG20CS111
VIKRAMA C	1KG20CS120
VISHWANATH VIVEK	1KG20CS122

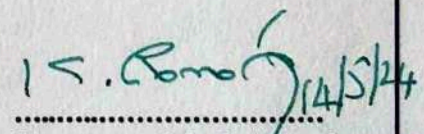
in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of . It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

  
Signature of the Guide

[Mrs. Sushmitha Suresh]

  
Signature of the HOD

[Dr. K Venkata Rao]

  
Signature of the Principal

[Dr. K Rama Narasimha]

HOD  
Department of Computer Science Engineering  
K.S School of Engineering & Management  
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Bengaluru - 560 109



# Visvesvaraya Technological University

Jnana Sangama, Belagavi - 590018



A Project Work Phase-II (18CSP83)

Report on

**“Grama Vikas”**

*Project Report submitted in partial fulfilment of the requirement for the  
award of the degree of*

**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

**Deepak.C. D**

**1KG19CS023**

Under the guidance of

**Mrs. Belji T**

**Asst. Prof, CSE,KSSEM**

**Department of Computer Science & Engineering**

**KSSEM, Bengaluru-560109**



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**2023 - 2024**

# K. S. School of Engineering and Management

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## Department of Computer Science & Engineering



**KSSEM**  
K.S. SCHOOL OF ENGINEERING AND MANAGEMENT

### CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled “**Grama Vikas**” is a bonafide work carried out by:

**Deepak.C. D**

**1KG19CS023**

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by **Visvesvaraya Technological University, Belagavi** during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-II Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

.....  
Signature of the Guide

[Mrs. Belji T]

.....  
Signature of the HOD

[Dr. K Venkata Rao]

HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

.....  
Signature of the Principal

[Dr. K Rama Narasimha]

**Dr. K. RAMA NARASIMHA**  
Principal/Director  
K S School of Engineering and Management  
Bengaluru - 560 109



# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



Jnana Sangama, Belagavi - 590018

A Project Work Phase-2 (18CSP83)

Report on

## **“INDIAN CURRENCY RECOGNITION SYSTEM FOR VISUALLY IMPAIRED PEOPLE USING MACHINE LEARNING”**

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*  
**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

**Bharani B                      1KG20CS009**

**Chandana B N                1KG20CS016**

**Divyalakshmi K            1KG20CS033**

**Kalpana C                     1KG20CS053**

Under the guidance of

**Dr.K.Venkata Rao**

**Professor&Head,CSE**

**Department of Computer Science & Engineering**

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2023 - 2024



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Department of Computer Science & Engineering



**KSSEM**  
K. S. School of Engineering and Management

## CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "INDIAN CURRENCY RECOGNITION SYSTEM FOR VISUALLY IMPAIRED PEOPLE USING MACHINE LEARNING", is a bonafide work carried out by:

<b>Bharani B</b>	<b>1KG20CS009</b>
<b>Chandana B N</b>	<b>1KG20CS016</b>
<b>Divyalakshmi K</b>	<b>1KG20CS033</b>
<b>Kalpana C</b>	<b>1KG20CS053</b>

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

Signature of the Guide

**Dr.K.VenkataRao**  
Professor&Head,CSE  
K.S.S.E.M.,Bengaluru.

Signature of the HOD

**Dr.K.VenkataRao**  
Professor&Head,CSE  
K.S.S.E.M.,Bengaluru.

Signature of the Principal

**Dr.K.Rama Narasimha**  
Principal/Director  
K.S.S.E.M.,Bengaluru.  
**Dr. K. RAMA NARASIMHA**  
Principal/Director



# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



Jnana Sangama, Belagavi - 590018

A Project Work Phase-2 (18CSP83)

Report on

**“J.A.R.V.I.S”**

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*

**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

Devanand M	1KG20CS026
Disha R	1KG20CS031
Druthi N	1KG20CS034
Inchara H R	1KG20CS042

Under the guidance of

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ASSISTANT PROFESSOR

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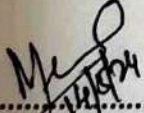
Department of Computer Science & Engineering

## CERTIFICATE

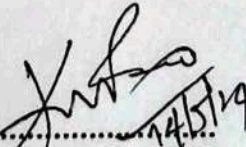
Certified that the Project Work Phase-II (18CSP83) entitled "J.A.R.V.I.S" is a bonafide work carried out by:

Devanand M	1KG20CS026
Disha R	1KG20CS031
Druthi N	1KG20CS034
Inchara H R	1KG20CS042

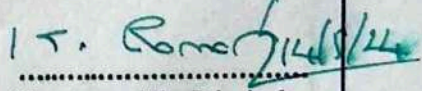
in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

  
.....  
Signature of the Guide

Mrs. Meena G  
Assistant Professor, CSE  
K.S.S.E.M., Bengaluru

  
.....  
Signature of the HOD

Dr. K Venkata Rao  
Head of Department, CSE  
K.S.S.E.M., Bengaluru

  
.....  
Signature of the Principal

Dr. K Rama Narasimha  
Dr. K. RAMA NARASIMHA  
Principal/Director  
K.S.S.E.M., Bengaluru  
K S School of Engineering and Management  
Bengaluru - 560 109

HOD  
Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109



# Visvesvaraya Technological University

Jnana Sangama, Belagavi - 590018



A Project Work Phase-II (18CSP83)

Report on

**“Finding the missing person using Artificial Intelligence(AI)”**

*Project Report submitted in partial fulfilment of the requirement for the*

*award of the degree of*

**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

Gagan.R	1KG20CS037
Monali.B.Pipaliya	1KG20CS066
Pathipati Harshitha	1KG20CS080

Under the guidance of

**Mrs. Prasanna.N**

**Assistant Professor**

**Department of Computer Science & Engineering**

**KSSEM, Bengaluru-560109**



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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**K. S. School of Engineering and Management**

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**2023 - 2024**



# K. S. School of Engineering and Management

#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109

## Department of Computer Science & Engineering



**KSSEM**  
K. S. School of Engineering and Management

### CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled “Finding the missing person using Artificial Intelligence(AI)” is a bonafide work carried out by:

Gagan.R 1KG20CS037

Monali.B.Pipaliya 1KG20CS066

Pathipati Harshitha 1KG20CS080

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of March 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

Signature of the Guide

[Mrs. Prasanna N]

Signature of the HOD

[Dr. K Venkata Rao]

HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

Signature of the Principal

[Dr. K Rama Narasimha]

Dr. K. RAMA NARASIMHA  
Principal/Director

K S School of Engineering and Management  
Bengaluru - 560 109



# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



**Jnana Sangama, Belagavi - 590018**

**A Project Work Phase-2 (18CSP83)**

**Report on**

## **“VITAMIN D AND B12 DEFICIENCY DETECTION USING MACHINE LEARNING TECHNIQUES”**

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*  
**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

<b>Jeevan Reddy R</b>	<b>1KG20CS050</b>
<b>Nandan Kumar N</b>	<b>1KG20CS069</b>
<b>Prerana Kumari</b>	<b>1KG20CS084</b>
<b>Vijayalakshmi D</b>	<b>1KG20CS119</b>

**Under the guidance of**

**Mrs. Dakshayini G R**

**Assistant Professor**

**Department of Computer Science & Engineering**

**KSSEM, Bengaluru-56010**



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**K. S. School of Engineering and Management**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109**

**2023 - 2024**





**K. S. School of Engineering and Management**  
#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109  
**Department of Computer Science & Engineering**

CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled “VITAMIN D AND B12 DEFICIENCY DETECTION USING MACHINE LEARNING TECHNIQUES” is a bonafide work carried out by:

<b>Jeevan Reddy R</b>	<b>1KG20CS050</b>
<b>Nandan Kumar N</b>	<b>1KG20CS069</b>
<b>Prerana Kumari</b>	<b>1KG20CS084</b>
<b>Vijayalakshmi D</b>	<b>1KG20CS119</b>

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

*Dakshayini G R*  
.....  
Signature of the Guide

[Mrs. Dakshayini G R]  
Assistant Professor, CSE  
KSSEM

*K Venkata Rao*  
.....  
Signature of the HOD

[Dr. K Venkata Rao]  
Professor & Head, CSE  
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HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

*K Rama Narasimha*  
.....  
Signature of the Principal

[Dr. K Rama Narasimha]  
Principal  
KSSEM

**Dr. K. RAMA NARASIMHA**  
Principal/Director  
K S School of Engineering and Management  
Bengaluru - 560 109



# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



**Jnana Sangama, Belagavi - 590018**

**A Project Work Phase-2 (18CSP83)**

**Report on**

## **“LAND REGISTRY USING BLOCKCHAIN”**

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*  
**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

**Ranjithaa MA – 1KG20CS092**

**Suchitha R – 1KG20CS104**

**Thanushree R – 1KG20CS109**

**Under the guidance of**

**Mrs.Chandana VS**

**Assistant Professor**

**Department of Computer Science & Engineering  
KSSEM, Bengaluru-56010**



**K. S. School of Engineering and Management**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109**

**2023 - 2024**





# K. S. School of Engineering and Management

#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109

Department of Computer Science & Engineering

## CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "LAND REGISTRY USING BLOCKCHAIN" is a bonafide work carried out by:

**Ranjithaa MA - 1KG20CS092**

**Suchitha R - 1KG20CS104**

**Thanushree R - 1KG20CS109**

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

*Chandana V.S. 11/5/24*  
.....  
Signature of the Guide

[Mrs.Chandana VS]

*K.V.Rao 11/5/24*  
.....  
Signature of the HOD

[Dr. K Venkata Rao]

*K.Rama Narasimha 11/5/24*  
.....  
Signature of the Principal

[Dr. K Rama Narasimha]

HOD  
Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

Dr. K. RAMA NARASIMHA  
Principal/Director  
K S School of Engineering and Management  
Bengaluru - 560 109



# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



Jnana Sangama, Belagavi - 590018

A Project Work Phase-2 (17CSP85)

Report on

## “IOT BASED SMART CRADLE SYSTEM”

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*  
**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

Submitted by

**SANJANA URS.D 1KG17CS072**

Under the guidance of

**Ms.Nethravathi K G**

**Department of Computer Science & Engineering  
KSSEM, Bengaluru-560109**



**KSSEM**  
K. S. SCHOOL OF ENGINEERING AND MANAGEMENT

**K. S. School of Engineering and Management**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109**

**2023 - 2024**





**KSSEM**  
K.S. SCHOOL OF ENGINEERING AND MANAGEMENT

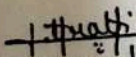
## **K. S. School of Engineering and Management**

#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109

**Department of Computer Science & Engineering**

### CERTIFICATE

Certified that the Project Work Phase-II (17CSP85) entitled "IOT Based Smart Cradle System" is a bonafide work carried out by: SANJANA URS .D (1KG17CS072) in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

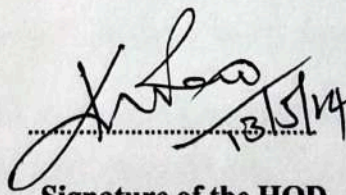
  
.....13/5/24.....

**Signature of the Guide**

[Ms. Nethravathi K G]

Assistant Professor, CSE

KSSEM

  
.....13/5/24.....

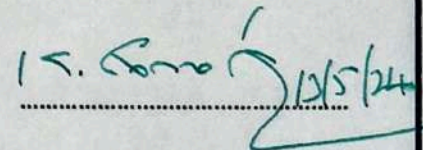
**Signature of the HOD**

[Dr. K Venkata Rao]

Professor & Head, CSE

KSSEM  
HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

  
.....13/5/24.....

**Signature of the Principal**

[Dr. K Rama Narasimha]

Principal

KSSEM

Dr. K. RAMA NARASIMHA  
Principal/Director  
K S School of Engineering and Management  
Bengaluru - 560 109



# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



**Jnana Sangama, Belagavi - 590018**

**A Project Work Phase-2 (18CSP83)**

**Report on**

**“MUSIC GENERATION USING DEEP LEARNING”**

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*

**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

<b>Rakshitha R</b>	<b>1KG20CS090</b>
<b>Sahana H S</b>	<b>1KG20CS096</b>
<b>Sriraksha</b>	<b>1KG20CS103</b>
<b>Vanditha</b>	<b>1KG20CS114</b>

**Under the guidance of**

**Mrs. Amitha S**

**Associate Professor**

**Department of Computer Science & Engineering**

**KSSEM, Bengaluru-56010**



**KSSEM**

**K. S. School of Engineering and Management**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109**

**2023 - 2024**





**K. S. School of Engineering and Management**  
#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109  
**Department of Computer Science & Engineering**

CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled “MUSIC GENERATION USING DEEP LEARNING” is a bonafide work carried out by:

<b>Rakshitha R</b>	<b>1KG20CS090</b>
<b>Sahana H S</b>	<b>1KG20CS096</b>
<b>Sriraksha</b>	<b>1KG20CS103</b>
<b>Vanditha</b>	<b>1KG20CS114</b>

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by **Visvesvaraya Technological University, Belagavi** during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

Signature of the Guide

[Mrs. Amitha S]  
Associate Professor, CSE  
KSSEM

Signature of the HOD

[Dr. K Venkata Rao]  
Professor & Head, CSE  
KSSEM

HOD

Department of Computer Science Engineering K S School of Engineering and Management  
K.S School of Engineering & Management  
Bangalore-560109

Signature of the Principal

[Dr. K Rama Narasimha]  
Principal  
KSSEM  
Dr. K. RAMA NARASIMHA  
Principal/Director

Bengaluru - 560 109



# Visvesvaraya Technological University



Jnana Sangama, Belagavi - 590018

A Project Work Phase-2 (18CSP83)

Report on

## “WASTE SEGREGATION USING DEEP LEARNING AND IOT”

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*  
**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

<b>Bhushan P</b>	<b>1KG20CS013</b>
<b>Kumara Swamy N</b>	<b>1KG20CS057</b>
<b>Lavanya M</b>	<b>1KG20CS058</b>
<b>Likhitha L Mahesh</b>	<b>1KG20CS059</b>

Under the guidance of

**Mrs. Jayashubha J.**

**Associate Professor**

**Department of Computer Science & Engineering**  
**KSSEM, Bengaluru-560109**



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**2023 – 2024**





# K. S. School of Engineering and Management

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Department of Computer Science & Engineering

## CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "WASTE SEGREGATION USING DEEP LEARNING AND IOT" is a bonafide work carried out by:

Bhushan P	1KG20CS013
Kumara Swamy N	1KG20CS057
Lavanya M	1KG20CS058
Likhitha L Mahesh	1KG20CS059

In partial fulfilment for VII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of September 2023 to January 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirement in report of project work prescribed for the Bachelor of Engineering degree.

Signature of the Guide

[Mrs. Jayashubha J]  
Associate Professor, CSE  
KSSEM

Signature of the HOD

[Dr. K Venkata Rao]  
Professor & Head, CSE  
KSSEM  
HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

Signature of the Principal

[Dr. K Rama Narasimha]  
Dr. K. RAMA NARASIMHA  
Principal/Director  
K S School of Engineering and Management  
Bengaluru - 560 109



# Visvesvaraya Technological University

Jnana Sangama, Belagavi - 590018



A Project Work Phase-2 (18CSP83)

Report on

## “IOT BASED ANIMAL DETECTION SYSTEM”

*Project Report submitted in partial fulfilment of the requirement for the*

*award of the degree of*

**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

J Bindu Priya	1KG20CS046
Anjali R Shastry	1KG21CS400
Dakshayini D S	1KG21CS401
Pallavi E	1KG21CS402

Under the guidance of

**Dr. K Venkata Rao**

**Professor & Head, CSE**

**Department of Computer Science & Engineering**

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**2023 - 2024**



**K. S. School of Engineering and Management**  
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**Department of Computer Science & Engineering**



**KSSEM**  
K.S. SCHOOL OF ENGINEERING AND MANAGEMENT

## CERTIFICATE

Certified that the Project Work Phase-2 (18CSP83) entitled "IOT BASED ANIMAL DETECTION SYSTEM" is a bonafide work carried out by:

**J Bindu Priya**  
**Anjali R Shastry**  
**Dakshayini D S**  
**Pallavi E**

**1KG20CS046**  
**1KG21CS400**  
**1KG21CS401**  
**1KG21CS402**

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

Signature of the Guide

**Dr.K.Venkata Rao**  
**Professor & Head, CSE**  
**K.S.S.E.M., Bengaluru.**

Signature of the HOD

**Dr.K.Venkata Rao**  
**Professor & Head, CSE**  
**K.S.S.E.M., Bengaluru.**

HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

Signature of the Principal

**Dr. K Rama Narasimha**  
**Principal / Director**  
**K.S.S.E.M., Bengaluru.**

**Dr. K. RAMA NARASIMHA**  
Principal/Director

**K S School of Engineering and Management**  
**Bengaluru - 560 109**



# Visvesvaraya Technological University

Jnana Sangama, Belagavi - 590018



PROJECT WORK PHASE-2  
REPORT ON

## “IMAGE FORGERY DETECTION USING ADAPTIVE OVERSEGMENTATION AND KEY POINT FEATURE MATCHING”

*Project Phase 2 Report submitted in partial fulfillment of the  
requirement for the award of the degree of  
BACHELOR OF ENGINEERING*

IN

COMPUTER SCIENCE AND ENGINEERING

Submitted by

JATIN SINGH	1KG20CS049
HARSH	1KG20CS043
MD. ZAYED	1KG20CS065

Under the guidance of

**Mrs. N Deepashree**

**Assistant Professor**

**Department of Computer Science & Engineering  
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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109**

**2023 – 2024**



# K. S. School of Engineering and Management

#15, Mallasandra, off. Kanakapura Road, Bengaluru -  
560109

## Department of Computer Science & Engineering



### CERTIFICATE

This is to certify that the Project Work Phase-2 (18CSP77) entitled "IMAGE FORGERY DETECTION USING ADAPTIVE OVERSEGMENTATION AND KEY POINT FEATURE MATCHING" is a bonafide work carried out by:

**JATIN SINGH**

**1KG20CS049**


**HARSH**

**1KG20CS043**

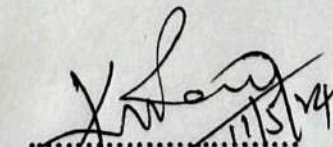
**ZAYED**

**1KG20CS065**

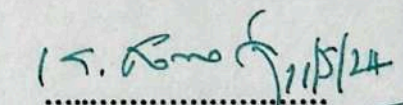
in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

  
.....  
Signature of the Guide

**Mrs. N Deepashree**  
Assistant Professor  
K.S.S.E.M., Bengaluru

  
.....  
Signature of the HOD

**Dr. K Venkata Rao**  
Professor & Head, CSE  
K.S.S.E.M., Bengaluru

  
.....  
Signature of the Principal

**Dr. K Rama Narasimha**  
Principal / Director  
K.S.S.E.M., Bengaluru



# Visvesvaraya Technological University



**Jnana Sangama, Belagavi - 590018**

**A Project Work Phase-2 (18CSP83)**

**Report on**

## **“LIFE EXPECTANCY POST THORACIC SURGERY USING MACHINE LEARNING”**

*Project Phase Report submitted in partial fulfilment of the requirement for the  
award of the degree of*  
**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

**Nandini V - 1KG20CS071**

**Nishmitha R - 1KG20CS076**

**Nithya A - 1KG20CS078**

**Roshan Kumar L - 1KG20CS093**

**Under the guidance of**

**Mrs. CHANDANA V S**

**Assistant Professor**

**Department of Computer Science & Engineering  
KSSEM, Bengaluru-560109**



**K. S. School of Engineering and Management**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

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**2023 – 2024**





# K. S. School of Engineering and Management

#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109

Department of Computer Science & Engineering

## CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "LIFE EXPECTANCY POST THORACIC SURGERY USING MACHINE LEARNING" is a bonafide work carried out by:

Nandini V	1KG20CS071
Nishmitha R	1KG20CS076
Nithya A	1KG20CS078
Roshan Kumar L	1KG20CS093

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of September 2023 to January 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-II Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

*Chandana V.S. 13/5/24*  
Signature of the Guide

[Mrs. Chandana V S]

*K. Venkata Rao 13/5/24*  
Signature of the HOD

[Dr. K Venkata Rao]

HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

*K. Rama Narasimha 13/5/24*  
Signature of the Principal

[Dr. K Rama Narasimha]

Dr. K. RAMA NARASIMHA  
Principal/Director

K S School of Engineering and Management  
Bengaluru - 560 109



# Visvesvaraya Technological University



Jnana Sangama, Belagavi - 590018

A Project Work Phase-2 (18CSP83)

Report on

**“INDISIGHT”**

*Project Phase Report submitted in partial fulfilment of the requirement for the  
award of the degree of*

**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

**Hemanth M - 1KG20CS045**

**J R Chandan - 1KG20CS047**

**Preetham K - 1KG20CS052**

**Kiran C D - 1KG20CS056**

Under the guidance of

**Mrs. BELJI T**

**Assistant Prof, CSE,**

**KSSEM**

**Department of Computer Science & Engineering**

**KSSEM, Bengaluru-560109**



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**K. S. School of Engineering and Management**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

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**2023 - 2024**





# K. S. School of Engineering and Management

#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109

Department of Computer Science & Engineering

## CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "INDISIGHT" is a bonafide work carried out by:

Hemanth M	1KG20CS045
J R Chandan	1KG20CS047
Preetham K	1KG20CS052
Kiran C D	1KG20CS056

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-II Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

Signature of the Guide

[Mrs. Belji T]

Signature of the HOD

[Dr. K Venkata Rao]

HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

Signature of the Principal

[Dr. K Rama Narasimha]

Dr. K. RAMA NARASIMHA  
Principal/Director

K S School of Engineering and Management  
Bengaluru - 560 109



# Visvesvaraya Technological University

Jnana Sangama, Belagavi - 590018



PROJECT WORK PHASE- 2  
REPORT ON

## “STRESS AND MENTAL HEALTH DETECTION USING MACHINE LEARNING”

*Project Phase 2 Report submitted in partial fulfillment of the  
requirement for the award of the degree of*  
**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

Submitted by

<b>M YASASWANI</b>	<b>1KG20CS062</b>
<b>T VYSHNAVI</b>	<b>1KG20CS110</b>
<b>V LAXMI PRIYA</b>	<b>1KG20CS115</b>
<b>YASHWANTH B</b>	<b>1KG20CS124</b>

Under the guidance of

**Mrs. Sushmitha Suresh**

Assistant Professor

Department of Computer Science & Engineering  
KSSEM, Bengaluru-560109



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**K. S. School of Engineering and Management**

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109

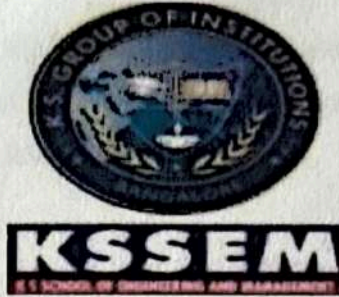
2023 – 2024



# K. S. School of Engineering and Management

#15, Mallasandra, off. Kanakapura Road, Bengaluru -  
560109

## Department of Computer Science & Engineering



### CERTIFICATE

This is to certify that the Project Work Phase-2 (18CSP77) entitled "Stress and Mental Health Detection using Machine Learning" is a bonafide work carried out by:

M YASASWANI	1KG20CS062
T VYSHNAVI	1KG20CS110
V LAXMI PRIYA	1KG20CS115
YASHWANTH B	1KG20CS124

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

*Sushmitha*  
.....  
Signature of the Guide

Mrs. Sushmitha Suresh  
Assistant Professor  
K.S.S.E.M., Bengaluru

*Dr. K Venkata Rao*  
15/5/24  
.....  
Signature of the HOD

Dr. K Venkata Rao  
Professor & Head, CSE  
K.S.S.E.M., Bengaluru

*Dr. K Rama Narasimha*  
15/5/24  
.....  
Signature of the Principal

Dr. K Rama Narasimha  
Principal / Director  
K.S.S.E.M., Bengaluru

Department of Computer Science Engineering  
K.S. School of Engineering & Management  
Bengaluru - 560109

Dr. K. RAMA NARASIMHA  
Principal/Director  
K.S. School of Engineering and Management  
Bengaluru - 560 109



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**"Janana Sangama", Belagavi-590018**



**Project Work Phase-2 (18CSP83)**  
**Report on**  
**“CRIME RATE PREDICTION USING MACHINE**  
**LEARNING”**

*Project Phase 2 Report submitted in partial fulfilment of the requirement for the award of the degree of*

**BACHELOR OF ENGINEERING**  
**IN**  
**COMPUTER SCIENCE AND ENGINEERING**

Submitted by

<b>Mohammed Yaseen</b>	<b>1KG20CS064</b>
<b>Nagendra B N</b>	<b>1KG20CS068</b>
<b>Nitesh A</b>	<b>1KG20CS077</b>
<b>Prajwal R</b>	<b>1KG20CS082</b>

Under the guidance of

**Mrs.Bindu K P**  
Assistant Professor  
Department of Computer Science & Engineering

**Department of Computer Science & Engineering KSSEM,**  
**Bengaluru-560109**



**KSSEM**  
K.S. SCHOOL OF ENGINEERING AND MANAGEMENT

**K. S. School of Engineering and Management**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**  
#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109  
2023 – 2024



**K. S. School of Engineering and Management**  
#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109  
**Department of Computer Science & Engineering**



**KSSEM**  
K.S. SCHOOL OF ENGINEERING AND MANAGEMENT

**CERTIFICATE;**

Certified that the Project Work Phase-2 (18CSP83) entitled "CRIME RATE PREDICTION USING MACHINE LEARNING" is a bonafide work carried out by:

**Mohammed Yaseen**  
**Nagendra B N**  
**Nitesh A**  
**Prajwal R**

**1KG20CS064**  
**1KG20CS068**  
**1KG20CS077**  
**1KG20CS082**

in partial fulfillment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

Signature of the Guide

**Mrs. Bindu K P**  
Assistant Professor, CSE  
K.S.S.E.M., Bengaluru.

Signature of the HOD

**Dr. K Venkata Rao**  
Professor & Head, CSE  
K.S.S.E.M., Bengaluru.

HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bangalore-560109

Signature of the Principal

**Dr. K Rama Narasimha**  
Principal / Director  
K.S.S.E.M., Bengaluru.

**Dr. K. RAMA NARASIMHA**  
Principal/Director

**KS School of Engineering and Management**  
Bengaluru - 560109



# Visvesvaraya Technological University

Jnana Sangama, Belagavi - 590018



A Project Work Phase-2 (18CSP83)  
Report on

**“SmartCrop: Agriculture Crop Recommendation based on  
future demand”**

*Project Report submitted in partial fulfilment of the requirement for the  
award of the degree of*

**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

**HARSHAL V PAI      1KG20CS044**

**JOSHNA MJ            1KG20CS051**

**KAVYA S              1KG20CS055**

**M JESWANTH        1KG20CS060**

Under the guidance of

**Mrs. Amitha S**

**Assoc.Prof,**

**Department of Computer Science & Engineering**

**KSSEM, Bengaluru-560109**



**KSSEM**  
K. S. SCHOOL OF ENGINEERING AND MANAGEMENT

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**K. S. School of Engineering and Management**

**#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109**

**2023 - 2024**





# K. S. School of Engineering and Management

#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109

## Department of Computer Science & Engineering

### CERTIFICATE

Certified that the Project Work Phase-2 (18CSP83) entitled "SMARTCROP: AGRICULTURE CROP RECOMMENDATION BASED ON FUTURE DEMAND" is a bonafide work carried out by:

<b>HARSHAL V PAI</b>	<b>1KG20CS044</b>
<b>JOSHNA MJ</b>	<b>1KG20CS051</b>
<b>KAVYA S</b>	<b>1KG20CS055</b>
<b>M JESWANTH</b>	<b>1KG20CS060</b>

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

Signature of the Guide

Mrs. Amitha S  
Assoc. Professor, CSE  
K.S.S.E.M., Bengaluru

Signature of the HOD

Dr. K Venkata Rao  
Professor and Head, CSE  
K.S.S.E.M., Bengaluru  
HOD

Department of Computer Science Engineering  
K.S School of Engineering & Management  
Bengalure-560109

Signature of the Principal

Dr. K Rama Narasimha  
Principal/Director  
K.S.S.E.M., Bengaluru

Dr. K. RAMA NARASIMHA  
Principal/Director

K-S School of Engineering and Management  
Bengaluru - 560 109



# Visvesvaraya Technological University



Jnana Sangama, Belagavi - 590018

A Project Work Phase-2 (18CSP83)

Report on

## **“Forensic Face Sketch Construction and Recognition”**

*Project Report submitted in partial fulfilment of the requirement for the award  
of the degree of*  
**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

Submitted by

**Akhilesh K A - 1KG20CS002**

**Preetham N N - 1KG20CS083**

**Sujay C L - 1KG20CS106**

**Sumanth G G - 1KG20CS107**

Under the guidance of

**Mrs. Kavitha K S**

Assistant Professor

Department of Computer Science & Engineering  
KSSEM, Bengaluru-560109



**K. S. School of Engineering and Management**

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109

2023 – 2024





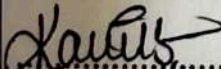
# K. S. School of Engineering and Management

#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109

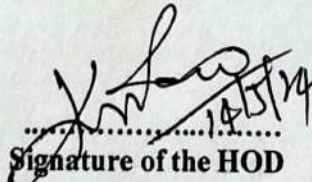
Department of Computer Science & Engineering

## CERTIFICATE

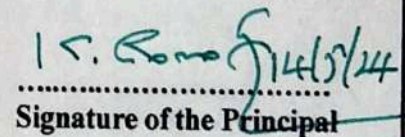
Certified that the Project Work Phase-II (18CSP83) entitled “**Forensic Face Sketch Construction and Recognition**” is a bonafide work carried out by: Akhilesh K A (1KG20CS002), Preetham N N (1KG20CS083), Sujay C L (1KG20CS106), Sumanth G G (1KG20CS107) in partial fulfilment for VII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by **Visvesvaraya Technological University, Belagavi** during the period of September 2023 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

  
.....  
Signature of the Guide

[Mrs. Kavitha K S]

  
.....  
Signature of the HOD

[Dr. K Venkata Rao]

  
.....  
Signature of the Principal

[Dr. K Rama Narasimha]

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Dr. K. RAMA NARASIMHA  
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# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



**Jnana Sangama, Belagavi - 590018**

**A Project Work Phase-2 (18CSP83)**

**Report on**

## **“DEEP LEARNING TECHNIQUES FOR THYROID NODULE DETECTION”**

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*  
**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

<b>Deekshith G</b>	<b>1KG20CS025</b>
<b>Devi Shankar S</b>	<b>1KG20CS027</b>
<b>Dhanush S P</b>	<b>1KG20CS028</b>
<b>Ranjith Kumar G D</b>	<b>1KG20CS091</b>

**Under the guidance of**

**Mrs. R S GEETHANJALI**

**Assistant Professor**

**Department of Computer Science & Engineering**

**KSSEM, Bengaluru-560109**



**K. S. School of Engineering and Management**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109**

**2023 - 2024**





# K. S. School of Engineering and Management

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Department of Computer Science & Engineering

## CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "Deep Learning Techniques For Thyroid Nodule Detection" is a bonafide work carried out by:

Deekshith G	1KG20CS025
Devi Shankar S	1KG20CS027
Dhanush S P	1KG20CS028
Ranjith Kumar G D	1KG20CS091

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

R-S-Geethanjali 14/5/24

Signature of the Guide

[Mrs. R S Geethanjali]

Assistant Professor, CSE

KSSEM

Signature of the HOD

[Dr. K Venkata Rao]

Professor & Head, CSE

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HOD

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Signature of the Principal

[Dr. K Rama Narasimha]

Principal  
Dr. K. RAMANARASIMHA  
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Principal/Director

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Bengaluru - 560 109



# Visvesvaraya Technological University

“Jnana Sangama”, Belagavi - 590018



A Project Work Phase-II (18CSP83)

Report on

**“REAL TIME CROWD COUNTING USING DEEP LEARNING”**

*Project Report submitted in partial fulfilment of the requirement for the  
award of the degree of  
BACHELOR OF ENGINEERING*

IN

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

Adithya S.R	1KG20CS001
Anupa M.B	1KG20CS004
Chandrashekhar	1KG20CS017
G Jaswanth	1KG20CS041

Under the guidance of  
**Mrs. Sougandhika Narayan**  
Assistant Professor  
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2023 - 2024



# K. S. School of Engineering and Management

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Department of Computer Science & Engineering



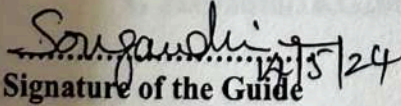
**KSSEM**  
K. S. School of Engineering and Management

## CERTIFICATE

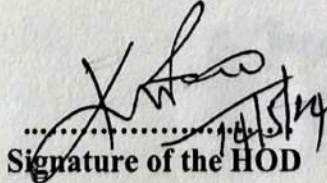
Certified that the Project Work Phase-II (18CSP83) entitled “**REAL TIME CROWD COUNTING USING DEEP LEARNING**” is a bonafide work carried out by:

<b>Adithya S.R</b>	<b>1KG20CS001</b>
<b>Anupa M.B</b>	<b>1KG20CS004</b>
<b>Chandrashekhar</b>	<b>1KG20CS017</b>
<b>G Jaswanth</b>	<b>1KG20CS041</b>

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by **Visvesvaraya Technological University, Belagavi** during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-II Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

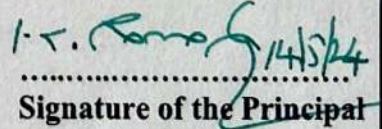
  
Signature of the Guide

Mrs. Sougandhika Narayan  
Assistant Professor, CSE  
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Signature of the HOD

Dr. K Venkata Rao  
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Signature of the Principal

Dr. K Rama Narasimha  
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Bengaluru - 560 109



# Visvesvaraya Technological University



Jnana Sangama, Belagavi - 590018

A Project Work Phase-2 (18CSP83)

Report on

## **“A PUF-based Lightweight and Secure Mutual Authentication Mechanism for Remote Keyless Entry Systems”**

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*

**BACHELOR OF ENGINEERING**

IN

**COMPUTER SCIENCE AND ENGINEERING**

Submitted by

**Rajath K - 1KG20CS087**

**Sahana S Hegde - 1KG20CS097**

**Shreya S - 1KG20CS099**

**Swetha M - 1KG20CS108**

Under the guidance of

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**2023 – 2024**





# K. S. School of Engineering and Management

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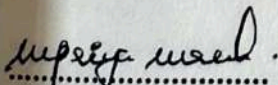
Department of Computer Science & Engineering

## CERTIFICATE

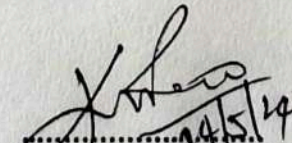
Certified that the Project Work Phase-2 (18CSP83) entitled "A PUF-based Lightweight and Secure Mutual Authentication Mechanism for Remote Keyless Entry Systems" is a bonafide work carried out by:

RAJATH K	1KG20CS087
SAHANA S HEGDE	1KG20CS097
SHREYA S	1KG20CS099
SWETHA M	1KG20CS108

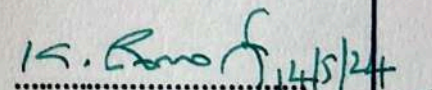
in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of . It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

  
.....  
Signature of the Guide

[Mrs. Supriya Suresh]

  
.....  
Signature of the HOD

[Dr. K Venkata Rao]

  
.....  
Signature of the Principal

[Dr. K Rama Narasimha]

Dr. K. RAMA NARASIMHA  
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# Visvesvaraya Technological University

“Jnana Sangama”, Belagavi - 590018



A Project Work Phase-II (18CSP83)

Report on

## “ENDPOINT SECURITY AND SURVEILLANCE USING ZERO TRUST”

*Project Report submitted in partial fulfilment of the requirement for the  
award of the degree of  
BACHELOR OF ENGINEERING*

IN

COMPUTER SCIENCE AND ENGINEERING

Submitted by

Darshan M	1KG20CS023
Dhilip N	1KG20CS030
Durga Prashanth N	1KG20CS035
Govardhan AV	1KG20CS040

Under the guidance of

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2023 - 2024



# K. S. School of Engineering and Management

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Department of Computer Science & Engineering



**KSSEM**

## CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled “ENDPOINT SECURITY AND SURVEILLANCE USING ZERO TRUST” is a bonafide work carried out by:

<b>Darshan M</b>	<b>1KG20CS023</b>
<b>Dhilip N</b>	<b>1KG20CS030</b>
<b>Durga Prashanth N</b>	<b>1KG20CS035</b>
<b>Govardhan AV</b>	<b>1KG20CS040</b>

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by **Visvesvaraya Technological University, Belagavi** during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-II Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

*Prasanna N*

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Signature of the Guide

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Assistant Professor, CSE  
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*K. Venkata Rao*  
14/5/24

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Signature of the HOD

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*K. Rama Narasimha*  
14/5/24

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Signature of the Principal

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**Dr. K. RAMA NARASIMHA**  
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Bengaluru - 560 109



# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



**Jnana Sangama, Belagavi - 590018**

**A Project Work Phase-2 (18CSP83)**

**Report on**

## **“IMAGE CAPTION GENERATOR USING CNN AND LSTM”**

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*

### **BACHELOR OF ENGINEERING IN COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

**M Rohini**

**1KG20CS061**

**Prajwal Gowda M**

**1KG20CS081**

**Under the guidance of**

**Mrs. Bindu K P**

**Assistant Professor**

**Department of Computer Science & Engineering**

**KSSEM, Bengaluru-56010**



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**2023 - 2024**





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**Department of Computer Science & Engineering**

CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "IMAGE CAPTION GENERATOR USING CNN AND LSTM" is a bonafide work carried out by:

**M Rohini**

**1KG20CS061**

**Prajwal Gowda M**

**1KG20CS081**

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

Signature of the Guide

[Mrs. Bindu K P]  
Assistant Professor, CSE  
KSSEM

Signature of the HOD

[Dr. K Venkata Rao]  
Professor & Head, CSE  
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[Dr. K Rama Narasimha]  
Principal  
Dr. K. RAMA NARASIMHA  
Principal/Director  
K S School of Engineering and Management  
Bengaluru - 560 109



# VISVESVARAYA TECHNOLOGICAL UNIVERSITY



**Jnana Sangama, Belagavi - 590018**

**A Project Work Phase-2 (18CSP83)**

Report on  
**“EARLY DETECTION OF OCD SYMPTOMS USING  
MACHINE LEARNING”**

*Project Report submitted in partial fulfilment of the requirement for the award of the degree of*  
**BACHELOR OF ENGINEERING**

IN  
**COMPUTER SCIENCE AND ENGINEERING**

**Submitted by**

<b>Bhanupriya B</b>	<b>1KG20CS008</b>
<b>Bhavani S</b>	<b>1KG20CS011</b>
<b>Kavya N</b>	<b>1KG20CS054</b>

Under the guidance of

**Mrs.R.S.Geethanjali**

**Assistant Professor**

**Department of Computer Science & Engineering**

**KSSEM, Bengaluru-56010**



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**#15, Mallasandra, off. Kanakapura Road, Bengaluru – 560109**

**2023 - 2024**





# K. S. School of Engineering and Management

#15, Mallasandra, off. Kanakapura Road, Bengaluru - 560109

Department of Computer Science & Engineering

## CERTIFICATE

Certified that the Project Work Phase-II (18CSP83) entitled "Early Detection of ocd symptoms using machine learning" is a bonafide work carried out by:

**Bhanupriya B**

**1KG20CS008**

**Bhavani S**

**1KG20CS011**

**Kavya N**

**1KG20CS054**

in partial fulfilment for VIII semester B.E., Project Work in the branch of Computer Science and Engineering prescribed by Visvesvaraya Technological University, Belagavi during the period of February 2024 to May 2024. It is certified that all the corrections and suggestions indicated for internal assessment have been incorporated. The Project Work Phase-2 Report has been approved as it satisfies the academic requirements in report of project work prescribed for the Bachelor of Engineering degree.

*R.S. Geethanjali 15/5/24*

Signature of the Guide

[Mrs. R.S. Geethanjali]  
Assistant Professor, CSE  
KSSEM

*[Signature]*  
15/5/24

Signature of the HOD

[Dr. K Venkata Rao]  
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*[Signature]*

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[Dr. K Rama Narasimha]  
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