Efficient Risk Prediction in Pregnancy Using Basic Vitals

Efficient Risk Prediction in Pregnancy Using Basic Vitals, highlights a novel approach to prenatal care utilizing fundamental physiological indicators. This study aims to leverage basic vital signs including blood pressure, heart rate and temperature to develop an efficient risk prediction model for pregnancy-related complications. By analyzing large datasets of pregnant individuals, this research seeks to identify early warning signs and predict adverse outcomes, enabling proactive interventions to improve maternal and fetal health. The findings from this study hold significant potential to enhance prenatal care practices, ultimately reducing maternal morbidity and mortality rates. Hence, Random Forest has the highest accuracy which is of 89 percent.

A pregnancy risk detection project using machine learning involves creating a model that analyzes health data to predict the likelihood of complications during pregnancy. The process includes collecting relevant data, selecting important features, training a machine learning model, validating its performance, and deploying it for practical use, all while considering ethical and user interface aspects. The goal is to provide accurate and timely risk assessments to improve maternal and fetal health outcomes. In the context of predicting risks in pregnancy, machine learning is leveraged to analyze various factors and provide valuable insights into potential complications. Machine learning in pregnancy risk prediction aims to enhance prenatal care by providing timely and accurate assessments, ultimately contributing to improved maternal and fetal health outcomes. Collaboration between data scientists, healthcare professionals, and ethical considerations is vital for success and responsible deployment of such models. Machine learning models analyze a broad spectrum of individual and population data to create personalized risk profiles for pregnant individuals. By considering factors like medical history, lifestyle, and demographics, the model tailors risk assessments to each patient's unique circumstances. Machine learning models have the capability to process large and complex datasets, improving the accuracy of risk predictions compared to traditional methods. The models operate objectively, minimizing the influence of human biases that might affect manual risk assessments.

Efficient Risk Prediction in Pregnancy Using Basic Vitals
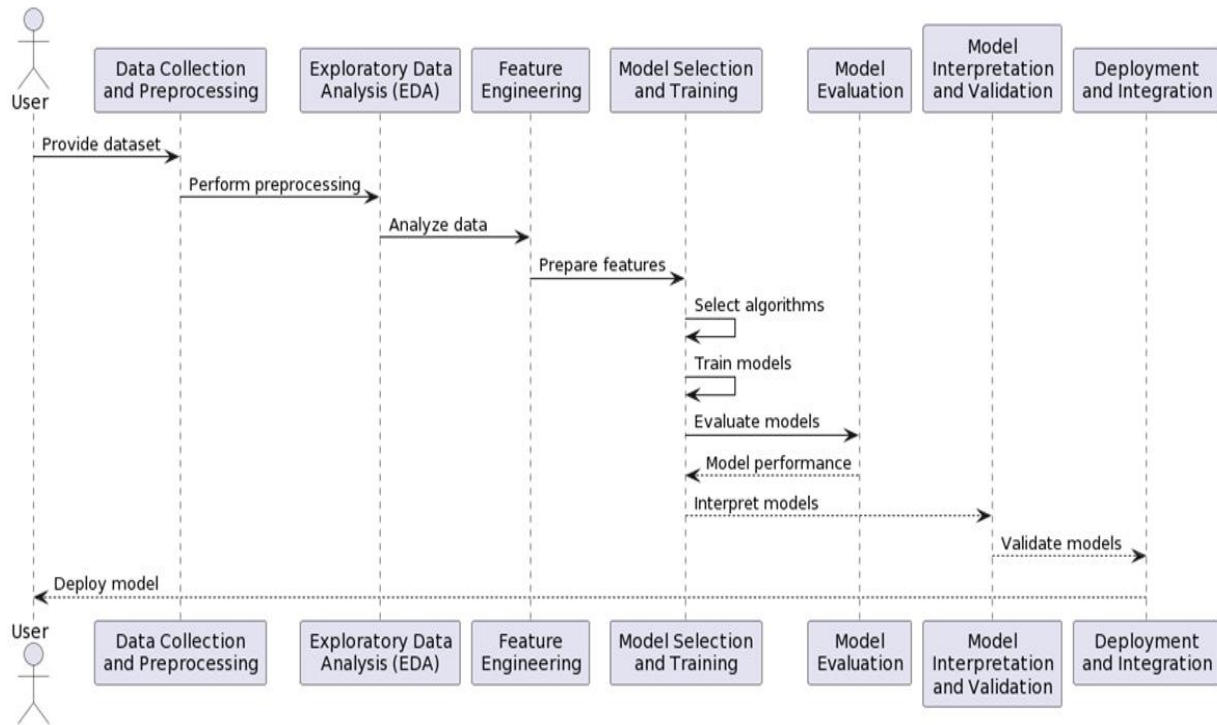
ARCHITECTURE-

Fig.1: Sequence diagram for Efficient Risk Prediction in Pregnancy Using Basic Vitals

METHODOLOGIES

- **Data Collection: -** This step involves gathering the dataset required for the research. The dataset typically contains information pertinent to the research query or objective. In this paper, the dataset comprises demographic information and other features relevant to risk prediction tasks.

- **Preprocessing Techniques: -** Preprocessing techniques are applied to the dataset to prepare it for analysis and modeling. Common preprocessing steps include handling missing data, normalizing or scaling features, encoding categorical variables, and removing outliers or irrelevant features. These techniques ensure that the data is clean, consistent, and compatible with the machine learning algorithms.

Efficient Risk Prediction in Pregnancy Using Basic Vitals

- **Model Selection: -** Model selection involves choosing appropriate machine learning algorithms for the task at hand. In this paper, we have chosen three algorithms for comparative analysis: Naive Bayes, Support Vector Machine (SVM), and Random Forest (RF). These algorithms are commonly employed for classification tasks and are known for their effectiveness in predictive modeling.

- **Training and Testing: -** The dataset has been partitioned into training and testing subsets. to train and evaluate the performance of the machine learning models. The training set is used to train the models, while the testing set is used to assess their performance on unseen data. This ensures that the models generalize well to new observations.

- **Model Training: -** The chosen machine learning algorithms are trained on the training data to learn patterns and relationships between the input features and the target variable (risk level). During training, the models adjust their parameters to reduce the discrepancy between predicted and actual outcomes.

- **Model Evaluation: -** The performance of the trained models is evaluated using appropriate evaluation metrics, such as accuracy, precision, recall, and F1-score. These metrics measure the effectiveness of the models in predicting the risk levels. Cross-validation techniques may also be employed to assess the robustness and generalization of the models.

- **Analysis and Comparison: -** Finally, the outcomes of the model evaluation are analyzed and compared to identify the most effective algorithm for risk prediction tasks. The performance of each algorithm is assessed based on its accuracy and other relevant metrics. Visualizations, such as bar plots, may be used to present the comparison results in a clear and concise manner.

CONCLUSION

In this study, we conducted a thorough comparative analysis of machine learning algorithms for risk level prediction using a dataset acquired through persistent efforts in navigating the complexities of healthcare institutions. Our journey began with initial setbacks, as

Efficient Risk Prediction in Pregnancy Using Basic Vitals

confidentiality concerns and resource limitations posed significant barriers to accessing the required clinical data. However, through persistent engagement with healthcare professionals and institutional stakeholders, we successfully secured the necessary permissions and obtained accessing the datasets. With the acquired data in hand, we rigorously evaluated the proficiency of three prominent machine learning algorithms: Naive Bayes, Support Vector Machine (SVM), and Random Forest (RF). Our analysis revealed promising results, with each algorithm demonstrating considerable efficacy in predicting risk levels. Specifically, Random Forest achieved a level of accuracy of 89%, outperforming SVM, which attained a level of accuracy of 84%, and Naive Bayes, which achieved a level of accuracy of 86%. These results underscore the capabilities of machine learning algorithms in risk prediction tasks within healthcare settings.

![KSSEM logo]

K.S. SCHOOL OF ENGINEERING AND MANAGEMENT
Mallasandra, Off. Kanakapura Road, Bengaluru-560109
Phone: 08028425012/013 website: www.kssem.edu.in
DEPARTMENT OF CIVIL ENGINEERING

SOCIALLY RELATED PROJECTS (2023-24)

Experimental Investigations on Thermal Performance of Stabilized Mud Block

The thermal performance of a building is crucial for understanding energy transfer between the structure and its environment. Stabilized mud blocks, made from locally sourced soil, M-sand, and cement, offer a sustainable building solution that minimizes costs related to acquisition and transportation. These blocks, produced using a Mardini stabilized mud block press, are designed to enhance durability and compressive strength.

In this project, blocks measuring 229x191x102 mm are tested for their thermal performance. An infrared thermometer measures temperature variations between the outer and inner surfaces of the blocks when exposed to sunlight, with a curing period of 28 days. A 3 x 3 x 3 ft room constructed with these blocks is also monitored to evaluate temperature differences compared to an outdoor environment.

The use of stabilized mud blocks can significantly reduce indoor temperatures during hot days, leading to lower energy consumption for cooling and contributing to a reduced carbon footprint. This sustainable approach not only enhances comfort but also promotes energy efficiency in building design.

Experimental Investigation on Use of Bamboo Mesh and Egg Shell Powder in Sustainable Ferrocement Elements

This investigation focuses on the experimental study of bamboo as a reinforcing mesh in sustainable ferrocement elements. By analysing the properties of key materials—cement, fine aggregate, and bamboo—the research aims to optimize a cement mortar mix to achieve a compressive strength of 50 MPa. The project involves casting ferrocement panels using both steel and bamboo meshes, followed by flexural strength testing to compare their performance.

The societal relevance of this project is significant. Utilizing bamboo, a renewable and locally available resource, can reduce reliance on traditional steel reinforcement, leading to more sustainable construction practices. This approach not only lowers material costs but also supports local economies through the promotion of indigenous materials. Additionally, the enhanced thermal and structural properties of bamboo-reinforced ferrocement can improve the durability and energy efficiency of buildings, contributing to environmentally friendly housing solutions. Overall, this research highlights the potential for sustainable materials to address housing needs while fostering community resilience and promoting ecological responsibility.

The comparative study of ferrocement elements shows that those reinforced with welded mesh have a 50% higher yield capacity and significantly greater stiffness, making them suitable for heavier loads. In contrast, bamboo mesh elements experience greater deflection and cracking after yield, indicating reduced load-carrying capacity. While bamboo mesh offers sustainability benefits, it is better suited for lighter loading conditions. These findings underscore the distinct applications and limitations of each reinforcing material in ferrocement construction.
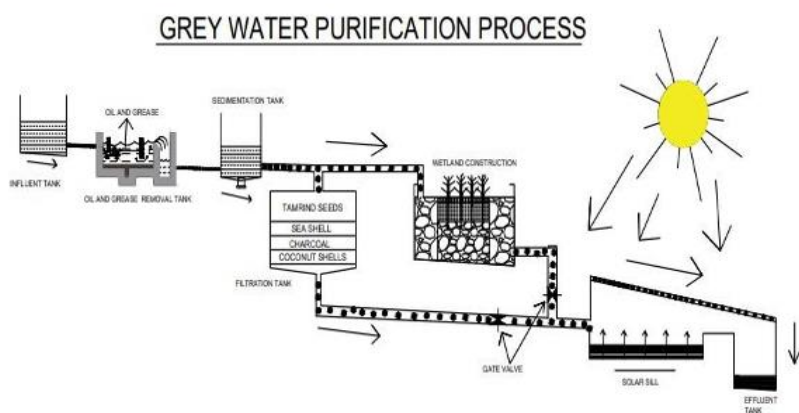
Potential Use of Biofilters, Constructed Wetland and Solar Driven Disinfection for Grey Water Treatment in Rural Areas

The purpose of this project was to develop a solar water purification system aimed at treating biologically contaminated grey water using solar energy and UV disinfection. This innovative method has shown promise as a simple and reliable solution for water purification, particularly in rural areas where water quality is often compromised.

In the laboratory, prepared grey water samples were found to be alkaline, discoloured, and non-compliant with BIS standards, necessitating purification. Following treatment, the purified grey water met the quality parameters outlined in IS 10500-2012, including pH, turbidity, total hardness, total alkalinity, dissolved oxygen, and biological oxygen demand. While certain parameters like hardness and alkalinity increased post-treatment, they still fell within acceptable limits. The study highlights the versatility of this solar water purification system, demonstrating its potential for implementation beyond regions with consistent high solar energy. Designed to be sustainable, portable, cost-effective, easy to use, and scalable, the system effectively kills bacteria—reducing total coliform levels to zero after treatment.

Overall, this project confirms that the integration of biofilters, constructed wetlands, and solar disinfection can effectively remove contaminants from grey water while being eco-friendly and low-cost. This approach not only improves water quality but also offers a sustainable solution for rural communities facing water scarcity and contamination challenges.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
Jnana Sangama, Belagavi-590014

PROJECT REPORT – PHASE 2

ON

A LOW-COST THERAPEUTIC EXERCISE MACHINE FOR MECHANIZED KNEE REHABILITATION

Submitted in Partial fulfillment of the Requirements for 8th Semester

Bachelor of Engineering

in

Electronics and Communication Engineering

by

MOHAMMED JUNAID M GUDDAD	1KG19EC061
ATHISH NAVEEN	1KG20EC005
KAKARLA JASWANTH CHOWDARY	1KG20EC015
TEJASHREE M	1KG20EC044

Under the Guidance

of

Dr. K. SENTHIL BABU

Professor & Head

Department of ECE, KSSEM

KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
K.S.SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-560109

2023-24

K.S. SCHOOL OF ENGINEERING AND MANAGEMENT
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Project work entitled **A LOW-COST THERAPEUTIC EXERCISE MACHINE FOR MECHANIZED KNEE REHABILITATION** is carried out by **MOHAMMED JUNAID M GUDDAD (1KG19EC061), ATHISH NAVEEN (1KG20EC005), KAKARLA JASWANTH CHOWDARY (1KG20EC015), TEJASHREE M (1KG20EC044),** bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project phase-II report and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Internal Guide & Head of the Department

Dr. K. Senthil Babu
Professor & Head
Dept. of ECE

Professor & Head
Dept. of Electronics & Communication Engineering
K.S. School of Engineering & Management
Bangalore - 560 109

Name of the Examiners

1 Ravikiran B.A

2 Prerna Kamal mhane.

Principal

Dr K. Rama Narasimha
Principal/Director
KSSEM

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

BARU 29/5/24

29/5/24

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590014

PROJECT REPORT – PHASE II

ON

IDENTIFICATION OF RIGHT AND LEFT VENTRICULAR HYPERTROPHY FROM ECG USING MACHINE LEARNING

Submitted in Partial fulfillment of the Requirements for 8[th]Semester

Bachelor of Engineering

in

Electronics and Communication Engineering

by

AKSHATHA S	1KG20EC004
K GOWTHAM	1KG20EC014
SADHANA H D	1KG20EC038

Under the Guidance

of

Dr. Renuka V Tali

Assistant Professor,

Department of ECE, KSSEM

KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-560109

2023-24

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Project work entitled **Identification of Right and Left Ventricular Hypertrophy from ECG using Machine Learning**are carried out by Akshatha S (1KG20EC004), K Gowtham (1KG20EC014), Sadhana H D (1KG20EC038), bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project phase-IIreport and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.
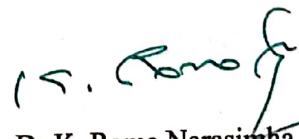
Internal Guide   **Head of the Department**   **Principal**

Dr. Renuka V Tali
Asst. Professor
Dept. of ECE

Dr. K. Senthil Babu
Professor & Head
Dept. of ECE
Professor & Head
Dept. of Flectronics & Communication Engineering
K.S. School of Engineering & Management
Bangalore - 560 109

Dr K. Rama Narasimha
Principal/Director
KSSEM
Dr. K. RAMA NARASIMHA
Principal/Director
K S School of Engineering and Management
Bengaluru - 560 109
Signature with Date

β Aru 29/5/24

29/5/24.

Name of the Examiners
1 RAVIKIRAN B.A.

2 Prerna Kamat Mhamai

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
Jnana Sangama, Belagavi-590014

PROJECT REPORT – PHASE 2

ON

PROTOTYPE FOR SURFACE WASTE COLLECTION SYSTEM IN WATER BODIES

Submitted in Partial fulfillment of the Requirements for 8th Semester

Bachelor of Engineering

in

Electronics and Communication Engineering

by

G BHARATH KUMAR	1KG20EC013
M B HEMANTH	1KG20EC019
P SAI KETHAN CHOWDARY	1KG20EC032
R PARTHIBAN	1KG20EC034

Under the Guidance

of

Dr. MANU D K

Associate Professor,

Department of ECE, KSSEM

KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-560109

2023-24

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Project work entitled **Prototype for surface waste collection system in water bodies** are carried out by G Bharath Kumar (1KG20EC013), M B Hemanth (1KG20EC019), P Sai Kethan Chowdary (1KG20EC032), R Parthiban (1KG20EC034), bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project phase-II report and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Internal Guide

Dr. Manu D K
Assoc. Professor
Dept. of ECE

Head of the Department

Dr. K. Senthil Babu
Professor & Head
Dept. of ECE

Professor & Head
Dept. of Electronics & Communication Engineering
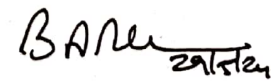K.S. School of Engineering & Management
Bangalore - 560 109

Principal

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

Name of the Examiners

1 Ravikiran B.A.

2 Purva Kamat mhamai

Signature with Date

29|5|24.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590014

PROJECT REPORT – PHASE II

ON

DETECTION OF AGE RELELATED MACULAR DEGENERATION WITH AI

Submitted in Partial fulfillment of the Requirements for 8th Semester

Bachelor of Engineering

in

Electronics and Communication Engineering

by

DARURU DHANYA DEEPIKA	1KG20EC008
KISHORE KUMAR M	1KG20EC016
MANNAM VANDANA	1KG20EC023
N S BANU PRASAD	1KG20EC024

Under the Guidance

Of

Dr. Kishore M

Associate Professor,

Department of ECE, KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-560109

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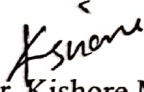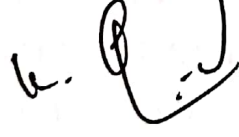### CERTIFICATE

This is to certify that the Project work entitled **Detection Of Age Related Macular Degeneration With AI** are carried out by Daruru Dhanya Deepika (1KG20EC008), Kishore Kumar M (1KG20EC016), Mannam Vandana (1KG20EC023), N S Banu prasad (1KG20EC024),bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project phase-I report and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.
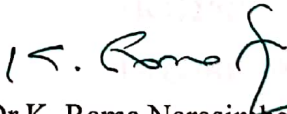
Internal Guide   **Head of the Department**   **Principal**

Dr. Kishore M   Dr. K. Senthil Babu   Dr K. Rama Narasimha
Assoc. Professor   Professor & Head   Principal/Director
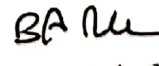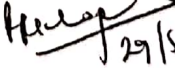Dept. of ECE   Dept. of ECE   KSSEM

Professor & Head
Dept. of Electronics & Communication Engineering
K.S. School of Engineering & Management
Bangalore - 560 109

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

Name of the Examiners
1 Ravikuan BA
2 Puwwa Kamat mhama.

BA Ru 29/5/24
29/5/24

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
Jnana Sangama, Belagavi-590014

PROJECT REPORT – PHASE 2

ON

Automated Attendance Management System using Machine Learning

Submitted in Partial fulfillment of the Requirements for 8th Semester

Bachelor of Engineering

in

Electronics and Communication Engineering

by

M LOKESH	**1KG20EC020**
NISHANTH NARAYAN	**1KG20EC028**
POOJA R	**1KG20EC031**

Under the Guidance

of

Prof. DILEEP J

Assistant Professor,

Department of ECE, KSSEM

KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-560109

2023-24

K.S. SCHOOL OF ENGINEERING AND MANAGEMENT
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Project work entitled **Automated Attendance Management System using Machine Learning** is carried out by **M Lokesh (1KG20EC020), Nishanth Narayan (1KG20EC028), Pooja R (1KG20EC031)**, bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project phase-II report and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Internal Guide	Head of the Department	Principal
Prof. Dileep J	Dr. K. Senthil Babu	Dr. K. Rama Narasimha
Asst. Professor	Professor & Head	Principal/Director
Dept. of ECE	Dept. of ECE	KSSEM

Professor & Head
Dept. of Electronics & Communication Engineering
K.S. School of Engineering & Management
Bangalore - 560 109

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

Name of the Examiners

1 Dr. K. Senthil Babu

2 Purva Kamat nhamar -

Signature with Date

3/5/24

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590014

PROJECT REPORT – PHASE 2

ON

IoT Based Gas Monitoring & Alerting System

Submitted in Partial fulfillment of the Requirements for 8th Semester

Bachelor of Engineering

in

Electronics and Communication Engineering

by

KOUSHIK	**1KG20EC017**
SACHIN R	**1KG20EC037**
SUPRITH R	**1KG20EC042**

Under the Guidance

of

Dr. Arun Kumar M

Associate Professor,

Department of ECE, KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-560109

2023-24

K.S. SCHOOL OF ENGINEERING AND MANAGEMENT

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Project work entitled **IoT Based Gas Monitoring & Alerting System** is carried out by Koushik (1KG20EC017), Sachin R (1KG20EC037), Suprith R (1KG20EC042), bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project phase-II report and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Internal Guide	**Head of the Department**	**Principal**
Dr. Arun Kumar M	Dr. K. Senthil Babu	Dr. K. Rama Narasimha
Associate Professor	Professor & Head	Principal/Director
Dept. of ECE	Dept. of ECE	KSSEM

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

Name of the Examiners

1 Dr. K. Sonthel Baba

2 Prerna Kamat mhamen

Signature with Date

30/5/24

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590014

PROJECT REPORT – PHASE 2

ON

HAND GESTURE RECOGNITION TO TEXT AND SPEECH CONVERSION USING IMAGE PROCESSING

Submitted in Partial fulfilment of the Requirements for 8th Semester

Bachelor of Engineering in

Electronics and Communication Engineering by

G POOJA	**1KG20EC011**
NEHA KUMARI S	**1KG20EC027**
UMA C	**1KG20EC046**
YASHASWINI R	**1KG20EC048**

Under the Guidance of

Mrs. BHARGAVI V SANGAM

Assistant Professor, Department of ECE, KSSEM

KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K. S. SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-560109

2023-24

K. S. SCHOOL OF ENGINEERING AND MANAGEMENT

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

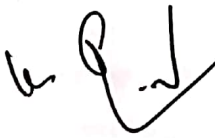## CERTIFICATE

This is to certify that the Project work entitled **Hand Gesture Recognition to Text and Speech Conversion Using Image Processing** is carried out by G Pooja (1KG20EC011), Neha Kumari S (1KG20EC027), Uma C (1KG20EC046), Yashaswini R (1KG20EC048), bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project Phase-2 report and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Internal Guide   **Head of the Department**   **Principal**

Mrs. Bhargavi V Sangam   Dr. K. Senthil Babu   Dr. k. Rama Narasimha
Asst. Professor   Professor & Head   Principal/Director
Dept. of ECE   Dept. of ECE   KSSEM

Professor & Head   Dr. K. RAMA NARASIMHA
Dept. of Electronics & Communication Engineering   Principal/Director
K.S. School of Engineering & Management   K. S. School of Engineering and Management
Bangalore - 560 109.   Bengaluru - 560 109

Name of the Examiners   Signature with Date

1 Dr. K. Senthil Babu

2 Purva Kamat Mhamai

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590014

PROJECT REPORT – PHASE 2

ON

RFID BASED SMART CAR PARKING SYSTEM

Submitted in Partial fulfillment of the Requirements for 8th Semester

Bachelor of Engineering

in

Electronics and Communication Engineering

by

CHAITRA L	1KG20EC006
RAKSHITHA M	1KG20EC036
TANUJA N	1KG20EC043
UJWALA H S	1KG20EC045

Under the Guidance

of

Mrs. JAYASHREE G R

Asst. Professor,

Department of ECE, KSSEM

KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K. S. SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-560109

2023-24

K. S. SCHOOL OF ENGINEERING AND MANAGEMENT
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Project work entitled **RFID Based Smart Car Parking System** is carried out by Chaitra L (1KG20EC006), Rakshitha M (1KG20EC036), Tanuja N (1KG20EC043), Ujwala H S (1KG20EC045), bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project Phase-II report and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Internal Guide

Mrs. Jayashree G R
Asst. Professor
Dept. of ECE, KSSEM

Head of the Department

Dr. K. Senthil Babu
Professor & Head
Dept. of ECE, KSSEM
Professor & Head
Dept. of Electronics & Communication Engineering
K.S. School of Engineering & Management
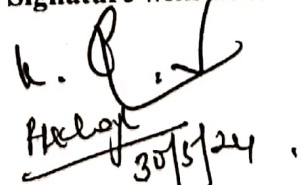Bangalore - 560 109

Principal

Dr. K Rama Narasimha
Principal/Director
KSSEM
Dr. K. RAMA NARASIMHA
Principal/Director
K S School of Engineering and Management
Bengaluru-560 109
Signature with Date

Name of the Examiners

1 Dr. K. Senthil Babu

2 Poorva Kamat mhaman

30/5/24 .

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590014

PROJECT REPORT – PHASE II

ON

AUTOMATIC MUSIC GENERATION USING MIDI DATA AND LSTM ANN

Submitted in Partial fulfillment of the Requirements for 8th Semester

Bachelor of Engineering

in

Electronics and Communication Engineering

by

NARRA BHASKAR NAIDU	1KG20EC025
NARRA SIRI	1KG20EC026
SALISEEMALA UMA CHOWDARY	1KG20EC039
SALISEEMALA USHA CHOWDARY	1KG20EC040

Under the Guidance

Of

Mr. Sanjay B. Nayak

Associate Professor,

Department of ECE, KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-560109

2023-24

K.S. SCHOOL OF ENGINEERING AND MANAGEMENT

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

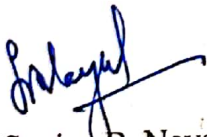## CERTIFICATE

This is to certify that the Project work entitled **Automatic Music Generation Using MIDI Data and LSTM ANN** are carried out by Narra Bhaskar Naidu (1KG20EC025), Narra siri (1KG20EC026), Saliseemala uma Chowdary (1KG20EC039),Saliseemala usha chowdary (1KG20EC040),bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project phase-I report and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Internal Guide

Mr. Sanjay B. Nayak
Assoc. Professor
Dept. of ECE

Head of the Department

Dr. K. Senthil Babu
Professor & Head
Dept. of ECE

Professor & Head
Dept. of Electronics & Communication Engineering
K.S. School of Engineering & Management
Bangalore - 560 109

Principal

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

Signature with Date
3AM 29/5/24

Name of the Examiners

1 Ravikiran BA

2 Pavan Kumar mbama

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590014

PROJECT REPORT – PHASE 2

ON

Implementation of School Bus Tracking and Notification System using IOT

Submitted in Partial fulfillment of the Requirements for 8th Semester

Bachelor of Engineering

in

Electronics and Communication Engineering

by

A YUVA SREE	1KG20EC002
CHANDANA R	1KG20EC007
PUNITH P	1KG20EC033
V SASIDHAR	1KG20EC047

Under the Guidance

of

Mrs. Swati Sarkar

Assistant Professor,

Department of ECE, KSSEM

KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-560109

2023-24

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Project work entitled **Implementation of School Bus Tracking and Notification System using IOT** is carried out by A.YUVASREE (1KG20EC002), CHANDANA R (1KG20EC007), PUNITH P (1KG20EC033), V.SASIDHAR (1KG20EC047), bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project phase-II report and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Internal Guide

Swati Sarkar

Mrs. Swati Sarkar
Asst. Professor
Dept. of ECE

Head of the Department

Dr. K. Senthil Babu
Professor & Head
Dept. of ECE

Professor & Head
Dept. of Electronics & Communication Engineering
K.S. School of Engineering & Management
Bangalore - 560 109

Principal

Dr K. Rama Narasimha
Principal/Director
KSSEM

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

Name of the Examiners

1 Ravikiran B A

2 Puran Kamart phana

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590014

PROJECT REPORT – PHASE 2

ON

Implementation of Low-Cost Ventilator

Submitted in Partial fulfillment of the Requirements for 8th Semester

Bachelor of Engineering

in

Electronics and Communication Engineering

by

A HARSHATH	**1KG20EC001**
ADUSUMALLI ROHITH	**1KG20EC003**
G JYOTHISWAR REDDY	**1KG20EC012**
K RAVITEJA	**1KG20EC018**

Under the Guidance

of

Prof. Ravikiran B A

Assistant Professor,

Department of ECE, KSSEM

KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K.S. SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-560109

2023-24

K.S. SCHOOL OF ENGINEERING AND MANAGEMENT
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Project work entitled **Implementation of Low-Cost Ventilator** is carried out by by A HARSHATH (1KG20EC001), ADUSUMALLI ROHITH (1KG20EC003), JYOTHISWAR REDDYG (1KG20EC012), RAVI TEJA K (1KG20EC018), bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project phase-II report and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Internal Guide   **Head of the Department**   **Principal**

BAQU

Prof. Ravikiran B A
Asst. Professor
Dept. of ECE

Dr. K. Senthil Babu
Professor & Head
Dept. of ECE
Professor & Head
Dept. of Electronics & Communication Engineering
K.S. School of Engineering & Management
Bangalore - 560 109

Dr. K. Rama Narasimha
Principal/Director
KSSEM
Dr. K. RAMA NARASIMHA
Principal/Director
K S School of Engineering and Management
Signature With Date
Bengaluru 560 109

BA Qe
27/5/24

29/5/24.

Name of the Examiners

1 Ravikiran BA

2 Poorna Kamat Mhamai

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590014

PROJECT REPORT – PHASE II

ON

DESIGN AND FABRICATION OF 2.4GHZ MICROSTRIP ANTENNA

Submitted in Partial fulfillment of the Requirements for 8th Semester

Bachelor of Engineering

in

Electronics and Communication Engineering

by

G NEERAJ	1KG20EC010
M HEMANTH	1KG20EC021
M KAIVALYA	1KG20EC022
P HARITHA	1KG20EC030

Under the Guidance

Of

Dr. Girish V Attimarad,

Professor,

Department of ECE, KSSEM

KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-560109

2023-24

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

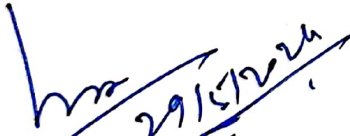## CERTIFICATE

This is to certify that the Project work entitled **Design and Fabrication Of 2.4GHz Microstrip Antenna** is carried out by G Neeraj (1KG20EC010), M Hemanth (1KG20EC021), M Kaivalya (1KG20EC022), P Haritha (1KG20EC030), bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project phase-I report and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.
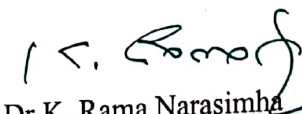
Internal Guide   **Head of the Department**   **Principal**

Dr. Girish V Attimarad
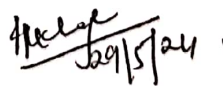Professor
Dept. of ECE

Dr. K. Senthil Babu
Professor &Head
Dept. of ECE
Professor & Head
Dept. of Electronics & Communication Engineering
K.S. School of Engineering & Management
Bangalore - 560 109

Dr K. Rama Narasimha
Principal/Director
KSSEM
Dr. K. RAMA NARASIMHA
Principal/Director
K S School of Engineering and Managem?
Bengaluru - 560 109
Signature with

Name of the Examiners

Date

1 Ravikiron BA

2 Prema Kamar nhama

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590014

PROJECT REPORT

ON

Implementation of Authentication Vehicle Ignition and accident prevention System

Submitted in Partial fulfillment of the Requirements for 8th Semester

Bachelor of Engineering

in

Electronics and Communication Engineering

by

NITHIN G N	**1KG20EC029**
RAGHAVENDRA C	**1KG20EC035**
NISHANTH GOWDA M	**1KG21EC400**
SWAMY M	**1KG21EC401**

Under the Guidance

of

Mr. Gopalakrishna Murthy C R

Associate Professor,

Department of ECE, KSSEM

KSSEM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

K.S.SCHOOL OF ENGINEERING AND MANAGEMENT BENGALURU-

560109

2023-24

K S SCHOOL OF ENGINEERING AND MANAGEMENT

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Project work entitled **Implementation of Authenticated vehicle Ignition and accident prevention system** is carried out by Nithin G N (1KG20EC029), Raghavendra C (1KG20EC035), Nishanth Gowda M (1KG21EC400) and Swamy M (1KG21EC401), bonafide students of KSSEM in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering under 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 Project report and deposited in the department library. The report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Internal Guide	Head of the Department	Principal
Mr. Gopalakrishna Murthy C R	Dr. K. Senthil Babu	Dr K. Rama Narasimha
Assoc. Professor	Professor & Head	Principal/Director
Dept. of ECE	Dept. of ECE	

Dr. K. RAMA NARASIMHA
Principal/Director

Professor & Head
Dept. of Electronics & Communication Engineering
K.S. School of Engineering & Management
Bangalore - 560 109

K S School of Engineering and Management
Bengaluru - 560 109

Signature with

Name of the Examiners

Date

1 Ravikiran BA

2 Poorva Kamat mbamai

BARL
29/5/24

29/5/24.

SOCIALLY RELATED PROJECTS- MECHANICAL ENGINEERING

Fabrication of Portable Water Purifier using Renewable Energy

Developments in sustainable water purification technology have been driven by the growing need for drinkable, clean water on a global scale. In order to solve water scarcity and environmental problems, the goal of this project is to fabricate an environmentally conscious water purifier that incorporates renewable materials and energy sources.

The suggested water purifier is built with renewable resources, with an emphasis on using biodegradable and environmentally friendly materials to reduce its negative effects on the environment. The filtration system uses sustainable and natural materials that have been shown to purify water, offering a practical solution while lowering dependency on non-renewable resources. To power the water purification process, the project incorporates renewable energy sources. The energy-intensive operations of the purifier are powered by solar energy, a commonly available and sustainable resource that lowers the system's carbon footprint and increases energy efficiency. This method, which encourages the use of clean and renewable energy for water treatment, is in line with the concepts of sustainability.

The objective of the project is to develop a sustainable and reasonably priced prototype that is simple to duplicate and modify in a variety of geographic locations, particularly those with restricted access to traditional energy sources. The project's results in the development of environmentally friendly water filtration technologies that not only solve the urgent problem of poor water quality but also encourage responsibility for the environment. The suggested water purifier offers a comprehensive and environmentally beneficial solution for communities aiming to achieve long-term water sustainability by highlighting the use of renewable materials and energy sources.

Design and fabrication of multi oriented sprayer attachment for tractor

A sprayer is a device used to spray a liquid manures, weed killers and pesticides in the agriculture fields, to maintain the crops and to get the high yield from which the high production can be achieved.

In early days the farmers were used to operate these sprayers to spray the pesticides and liquid manures. But it was taking the lot of time and effort, also because of the chemicals the farmers were facing lot of health issues. To overcome these problems many agro industries developed tractor operated spray machines to reduce the time consumption for the spray was and also to reduce the labor involvement. But the main disadvantage of these machines is the high cost.

In this project the design and fabrication of multi oriented sprayer attachment for tractor is fabricated which helps the farmers to spray the weed killers, liquid fertilizers and pesticides in horizontal and vertical directions effectively and efficiently, and this sprayer attachment is fabricated at low cost compared to other sprayers for tractor.

Design and Fabrication of Android Controlled Grass Cutter and Weedicide Spraying Machine

Grass cutter machines have become very prevalent currently. Most of the times, grass cutter machines are used for soft grass cutting. In a time where technology is integrating with environmental sentience, consumers are considering for ways to provide to the relief of their own carbon footprints. Pollution is man-made and can be seen in our own daily lives, more precisely in our own homes. Herein, we recommend a model of the Android grass cutting and weedicide spraying machine powered through battery.

Manual grass cutting and weedicide spraying requires man power, time and it may create non-uniform structure of grass height. Hence to avoid all these issues it is essential to create a system which can cut the grass with least skills. This research implements the grass cutting and weedicide spraying machine which has battery that can be charged by electricity. This machine can be operated using android phone. This system can be created with minimum cost as compared to other existing systems. This is rugged, durable and maintenance free. This system is pollution free due to the use of electrical energy to charge the battery.