

Bapuji Educational Association (Regd)
Bapuji Institute of Engineering & Technology, Davangere.
Computer Science and Engg. Department.

A Report on

Green and Eco-Friendly Campus Initiatives-
Department of Computer Science and Engineering
(2024-2025)

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1. Green Practice:

- To create awareness regarding environmental policy amongst the students.
- To Use Solar Energy on College Campus by installing Solar Lamps and Solar water Heaters in Girls and Boys hostels.
- To sensitize the students and staff regarding the use of drinking water properly for which, we have provided purified (RO purifying system) drinking water facilities on the campus.
- To bring in use the 'Rain Water Harvesting' on the campus.
- To use the solid waste through vermin-compost on the campus and use it as a fertilizer.
- To reduce the 'sound pollution in the campus, we have built the seating arrangements in the shade of trees in our campus.
- To use 'Use me' Dry and Wet dust bins in the college campus so as to keep college campus clean and tidy.
- Tree plantations.
- Students are advised frequently to turn off Systems, lights and Fans when they are unused.
- Students are encouraged to select the projects on waste management.

2. AICTE Activity Points:

This was an attempt to implement the AICTE programme ideas in the villages to improve quality education, create awareness among people about their mental and physical hygiene, to enhance art, culture and natural heritage from the outgoing batch of 2021-2022. Our team visited two villages called Jarikatte and Naganur, near the outskirts of Davangere. We visited the high schools, village houses, some shops and some farms to create awareness among the people. Sarkari Hiraya Prathamika Shale i.e., the Secondary School of the village was the main point of junction. Some healthy programmes were accomplished by dividing the team into smaller groups including distributing the books to students, cleaning the surroundings (Swachh Bharat Mission), COVID-19 awareness talk, Computer and educational based seminars etc. All our efforts got successful results. We hope the people caught the awareness about the factors and phenomenon.

The objectives of AICTE student activity is to expose students to real-time life challenges, to provide the opportunity to gather data, analyse

data, propose solutions and implement solutions. Also, it paves the way for personal development and creative engineers who are proud volunteers with a sense of achievement and ready to take up projects having a social impact and creating digital awareness. Besides, it helps the students to strengthen their soft skills, leadership qualities and team spirit. Moreover, these activities inculcate entrepreneurial mindset and societal commitment.

Following are the various activities conducted by the institution to enable AICTE activity points.

- Cleaning the surroundings (Swachh Bharat Mission)
- Plantation
- COVID-19 awareness talk
- Digital Awareness Programme
- Nutrition Awareness Programme
- Books Distribution
- Jal Shakthi Abhiyan
- National Mission for Sustainable Agriculture

3. Projects:

Following are the few list of projects assigned to students to reach our green campus initiative goals.

1. AgriBot – An Intelligent Chatbot For Farmers With Crop And Disease Prediction

USN	Student Name	Guides
4BD21CS098	PRAJWAL M V	Prof. Shankar Sarji
4BD21CS080	NAMRATHA A N	
4BD21CS089	NIKITA RAMANNA VADDAR	
4BD21CS110	RAKESH S	

Abstract:

AgriBot is an AI-powered chatbot designed to be a smart, digital farm assistant for farmers, offering personalized advice on crop selection, disease prediction, and sustainable practices by analyzing soil data, weather, and even plant images using computer vision (CNNs). It bridges the knowledge gap by providing instant, localized, and multilingual support, helping farmers optimize yields, reduce

losses, and improve decision-making with data-driven insights for a more efficient and sustainable agricultural future.

2. AI Driven virtual health consultant

USN	Student Name	Guides
4BD21CS036	DEEPIKA M RITTI	Prof. Chandrashekar M V
4BD21CS039	DHANUSH S K	
4BD22CS413	SHIVAKUMAR V	
4BD21CS069	MANASA G S	

Abstract:

An AI-driven virtual health consultant is an intelligent digital tool using NLP (Natural Language Processing) and machine learning to provide accessible, 24/7 healthcare support, handling tasks like symptom checking, appointment scheduling, medication reminders, and answering queries, freeing up human staff for complex care and offering personalized, proactive health guidance through chatbots and virtual assistants. These systems enhance patient engagement, improve efficiency, and bridge gaps in care by integrating with patient data to offer context-aware advice, moving beyond simple information to predictive health management.

3. Forensic Face Sketch Construction and Recognition Using Cloud-Integrated Deep Learning

USN	Student Name	Guides
4BD21CS103	RACHANA B P	Dr. Chetana Prakash
4BD21CS112	RAKSHITHA	
4BD21CS115	TALIKOTI	
4BD21CS122	RASHMI JOGIHALLI ROHITH M	

Abstract:

The crime rate has been increasing constantly in contemporary times, so as to keep everything in order, law enforcement agencies must also discover ways to streamline investigations and aid in bringing perpetrators to light. Utilizing face recognition technology is one such approach to trace and corroborate the criminal. The conventional method in this case was the use of facial sketches drawn by hand created by a forensic artist to identify the perpetrator; however, a more up-to-date method would be to use a sketch that is drawn by hand and then compare it to a law enforcement database. This method would have a number of technological limitations and would take a lot of time because of the fact that there are artists available but forensic sketch ones are few as compared to the

increasing crime rate. The project aims to specifically design to reduce duration of time and increase the speed of the procedure by demonstrating a self-contained platform for the department of law that would help and allow the client as well as users to create facial sketches of an accused's face that are accurate without the help of a forensic artist and without artistic skills or any kind of professional training. Drag and drop in the app will be used for different facial elements to create a sketch and can on its own compare the drawn facial sketch that are composite with the police department records much faster and more efficiently cloud infrastructure as well as deep learning algorithms.

4. Smart Parental Surveillance: Advanced Keylogging Techniques for Child Cybersecurity

USN	Student Name	Guides
4BD21CS090 4BD21CS011 4BD21CS169 4BD21CS166	NIROOP P AMSHU B PATEL U SANDEEP TEJASWINI K S	Prof. Gangamma Hediyalad

Abstract:

In the contemporary digital era, system surveillance has emerged as a critical component for ensuring data integrity, user accountability, and organizational security. This paper presents a comprehensive study on system surveillance through the implementation of keylogging mechanisms. The research encompasses a detailed survey conducted across diverse user groups to analyze awareness, perceptions, and potential risks associated with keyloggers. Based on the data collected, we formulated a clear problem statement highlighting the need for efficient and ethical surveillance solutions. The study defines the scope of keylogger-based monitoring in controlled environments, ensuring minimal intrusion while maximizing system oversight. Additionally, we propose a structured cost estimation model covering hardware, software, and maintenance aspects. The methodology includes both qualitative and quantitative analysis, offering insights into deployment strategies, data handling mechanisms, and ethical considerations. The paper aims to serve as a foundational reference for further research

5. Crop Market price prediction using LLMs

USN	Student Name	Guides
4BD21CS172 4BD21CS175 4BD22CS417 4BD21CS187	VANITHA M S VIJAY B M SYED ZUBAIR YOGITA ANNASAHEB CHOUGALA	Dr. Abdul Razak M S

Abstract:

The project implements an advanced DistilBERT-based intelligent system that predicts agricultural crop prices depending on the region and date. The model is trained on historical data containing state, district, year, season, and type of crop. Based on the backend built with Hugging Face Transformers in Python and a responsive frontend made with Flask, HTML, CSS, and JavaScript, the system successfully predicts prices and calculates MSE as the evaluation metric. The farmers and traders can estimate the price by entering certain crop-related parameters which are updated in real-time. To improve the model's performance, token length, early stopping, and hyperparameter tuning were applied. System responsiveness is prioritized to ensure users get near-instant feedback. The system is able to provide insights into the pricing trends and provides farmers, traders, and policy makers with the tools needed to make informed decisions, thus enabling data-driven agricultural decision-making.

6. Animal Detection and Classification using deep learning

USN	Student Name	Guides
4BD21CS014 4BD21CS403 4BD22CS145	ANANYA T CHETAN RAJU ATTANAGI SHREYA K S	Dr. Anusha R

Abstract:

Animal detection and classification using deep learning leverages Convolutional Neural Networks (CNNs) and models like YOLO, MobileNet, ResNet, and EfficientNet to automatically identify and categorize animals from images or videos, enabling applications in wildlife monitoring, anti-poaching, and crop protection by quickly processing visual data with high accuracy, often integrating with IoT for real-time alerts. These systems learn features directly from large datasets, significantly reducing manual effort and improving efficiency for conservation and agriculture.

7. AI powered women safety app with automated sos and safe route prediction

USN	Student Name	Guides
4BD21CS079 4BD21CS088 4BD21CS094 4BD21CS097	MOHAMMED RUMAN MALIK NIKHITA SHASHIKANT KULAGOD PALLAVI A R PRAJWAL H P	Dr. Naveen H M

Abstract:

This research article outlines AURA—an AI-based mobile safety application that will increase women’s safety in India. Unlike traditional safety applications that merely react after a safety event happens, AURA represents a preliminary push toward a proactive safety infrastructure based on real-time geofenced data, anomaly prediction from mobile sensors, AI-enabled navigation tools using AR, chatbot legal support tools, and user-generated safety surveys. The app included predictive anomaly detection based on mobile sensors, AR-enabled navigation to select safe routes, a legal chatbot that could provide any legal help, documents and advice, and user-generated requests for safety and crowd-sourced reports. Lastly, AURA utilizes geofenced dynamic environmental risk level notifications from real-time user-generated reports or safety messages. Pilot trials in urban geographical regions have established AURA responses for intentional emergencies and coping with emergencies with promising results based on good levels of emergency handling, good overall user experience, and high levels of satisfaction. AURA is a meaningful advancement for an integrated smart system of proactive responses within a safe context-aware infrastructure.

8. Deep Learning-Based Sugarcane Disease Classification

USN	Student Name	Guides
4BD21CS009	AMIT KUMAR YADAV	Prof. Drushti Shastri
4BD21CS003	ABHISHEK G M	
4BD21CS006	AISIRI S V	

Abstract:

Plants are seriously threatened by crop diseases. Prompt preventive action can reduce the likelihood of crop loss and contamination. This study explores using deep learning to classify sugarcane leaf diseases, crucial for effective agricultural disease management. Fungal infections like red rot, rust, yellow, and mosaic viruses can harm sugarcane health. Deep learning models help extract complex information from images due to their multi-level structures. CNNs are also able to dramatically reduce computation time by taking advantage of GPU for computation. In this study, we utilize advanced deep learning models, including ResNet-50, VGG-16, DenseNet-201, VGG-19, and Inception V3, for the classification of sugarcane leaf diseases. We carefully curate a diverse dataset from mendeley of 2511 images comprising 5 classes: Healthy, Mosaic, Red Rot, Rust and Yellow to train and evaluate these models. After fine-tuning the parameters and implementing preprocessing techniques such as gamma correction and contrast stretching, ResNet-50 emerges as the top performer with 95.69% accuracy, followed by VGG-16 at 93.26% and DenseNet-201 at 89.62%. VGG-19 and Inception V3 achieve accuracies of 79.62% and 74.88%, respectively. These

findings provide valuable guidance for selecting suitable models to improve disease management in agriculture, leading to enhanced productivity and sustainable sugarcane farming practices.

9. Explainable AI for Enhancing Decision-Making in Precision Agriculture

USN	Student Name	Guides
4BD21CS140 4BD21CS152 4BD21CS143 4BD21CS146	SHASHIDHAR V SOMASAGAR SNEHAN SHODHAN PATEL G S SHREYA S B	Dr. Naseer R

Abstract:

The agricultural sector faces critical challenges due to plant diseases that reduce crop yield and threaten food security. This project presents a transparent and intelligent system leveraging Explainable Artificial Intelligence (XAI) to enhance decision-making in precision agriculture. Using the widely recognized PlantVillage dataset and state-of-the-art pre-trained deep learning models (ResNet50 and EfficientNet), the system accurately detects plant diseases and explains predictions using GRAD-CAM and LIME. It is supported by a Node.js-based backend API and an intuitive React dashboard for farmers. The model is tested and deployed using free, open platforms like Google Colab, Render, and Vercel. This solution aims to provide a cost-effective, scalable, and interpretable AI-powered plant disease diagnostic tool.

Department coordinator

Program coordinator