



IT CHRONICLES



THINK. CREATE. TRANSFORM

INSTITUTE VISION

To become a globally recognized institution that develops professionals with integrity who excel in their chosen domain making a positive impact in industry, research, business and society.

INSTITUTE MISSION

- To provide the ambience necessary to achieve professional and technological excellence at the global level.
- To undertake collaborative research that fosters new ideas for sustainable development.
- To instill in our graduates ethical values and empathy for the needs of society.

VISION OF IT DEPARTMENT

“To become a globally recognized centre of excellence in the field of Information Technology, providing technology excellence that advances learning, teaching, research to produce budding IT professionals, researchers, innovators and entrepreneurs.”

MISSION OF IT DEPARTMENT

- Produce graduates with the best knowledge and practical skills by imparting innovative skills, research aptitude, ethics, and social responsibility.
- To create ambience of academic excellence through state of the art infrastructure and learner centric pedagogy leading to employability, and research.
- Imbibe and instill in them the required qualities to become leaders who can make positive contribution to the society.
- Enhance the student's knowledge in the latest technologies by organizing and participating in technical programs
- Interact and work closely with industries and research organizations to accomplish technology transfer

IT CHRONICLE

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AI – GENERATED IMAGE DETECTION SYSTEM

This project delves into the innovative realm of deep learning-based media authentication by utilizing convolutional neural networks as the primary method of identification. Through a fusion of visual feature extraction, neural network architectures, and forensic analysis, the project showcases the potential of technology to verify digital media authenticity beyond traditional inspection methods. By analyzing subtle structural artifacts and comparing genuine images with synthetic generations and frequency-domain representations, the project explores the intricate interplay between computer vision, deepfakes, and automated verification systems. Through this interdisciplinary approach, users are prompted to reconsider the boundaries of media credibility and contemplate the ethical implications of synthetic content detection. AI-driven deepfake detection serves as a catalyst for dialogue on the evolving landscape of digital misinformation, media integrity, and the role of automated forensics in shaping our understanding of trust in the digital age.



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TOC23IT026

WATER QUALITY MONITORING SYSTEM WITH WEB – BASED ALERT

This project aims to develop an IoT-based water quality monitoring system that enables continuous and real-time monitoring of water conditions. It uses turbidity, Total Dissolved Solids (TDS), and temperature sensors connected to an ESP32 microcontroller to collect water-quality data. The sensor readings are processed and transmitted through Wi-Fi to a Python interface and MySQL database, where both real-time and historical data are stored. A web dashboard allows users to remotely monitor the measured parameters, while the system compares readings against predefined safety limits and determines whether the water is safe or unsafe. When unsafe conditions are detected, the system generates SMS alerts and email-based water quality reports containing the relevant measurements. The project also incorporates Water Quality Index (WQI) calculation to represent overall water quality and supports continuous monitoring through a repeated sensing and alert cycle. By integrating IoT sensors, database storage, web monitoring, and automated alerts, the system provides a solution for reducing dependence on manual testing and enabling quicker detection of changes in water quality.



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IOT BASED – FOOTSTEP POWER GENERATING SYSTEM

This project aims to develop an IoT-based footstep power generating system that converts the mechanical energy produced by human footsteps into electrical energy using piezoelectric sensors installed beneath specially designed floor tiles. When a person steps on the platform, the pressure generates electrical energy in the form of fluctuating AC voltage. A bridge rectifier and voltage regulation circuit convert and stabilize this output into DC power, which is then stored in a rechargeable battery or supercapacitor for later use. The stored energy can power low-power applications such as LED lights and display units. An Arduino/IoT microcontroller monitors parameters such as voltage, power generation, and the number of footsteps, and transmits the data through Wi-Fi to a web dashboard or mobile application for real-time monitoring. The system is designed particularly for high-footfall areas such as railway stations, shopping malls, bus stands, corridors, and public walkways, where repeated footsteps can be utilized as a small-scale renewable energy source. By combining energy harvesting, storage, and IoT-based monitoring, the project demonstrates a method of utilizing otherwise wasted human mechanical energy for low-power applications.



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ASHWIN BIJI
ATHIRA RAJU

TOC23IT008
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TOC23IT012

IOT-BASED SMART NOISE MONITORING AND VOICE ALERT SYSTEM

This project aims to develop an IoT-based smart noise monitoring system that continuously measures environmental noise levels and provides real-time voice alerts when the sound exceeds predefined safe limits. The system uses a sound/noise sensor to detect surrounding noise and a microcontroller with IoT connectivity to process and monitor the measured values. The collected noise data can be transmitted for remote monitoring, allowing users or administrators to observe noise conditions in real time. When the detected noise level crosses the configured threshold, the system triggers a voice alert to immediately inform people about excessive noise. The system is designed to support monitoring in environments where controlling noise pollution is important, while enabling continuous observation and timely response. By combining noise sensing, microcontroller-based processing, IoT connectivity, and voice-based alerts, the project provides an automated approach to identifying excessive noise levels and improving awareness of noise pollution.



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FERTILIZER RECOMMENDATION SYSTEM USING MACHINE LEARNING

This project aims to develop a Machine Learning-based Fertilizer Recommendation System that suggests suitable fertilizers based on soil conditions and crop requirements. The system uses parameters such as Nitrogen (N), Phosphorus (P), Potassium (K), soil pH, and crop type. The collected data is cleaned, encoded, normalized, and divided into training and testing sets. A Random Forest Classifier is trained to identify the relationship between soil nutrients, crop type, and suitable fertilizers. Through a web-based interface, users can enter soil and crop details and receive fertilizer recommendations such as Urea, DAP, or MOP, along with a confidence score. The system also stores relevant data and predictions for future reference. By providing data-driven recommendations, the project aims to support farmers in making more informed fertilizer decisions and improving agricultural productivity. The system is designed to reduce the complexity of fertilizer selection by providing personalized recommendations based on specific soil and crop conditions. It combines data preprocessing, machine learning, and a web-based interface to deliver quick and practical recommendations for different agricultural requirements.

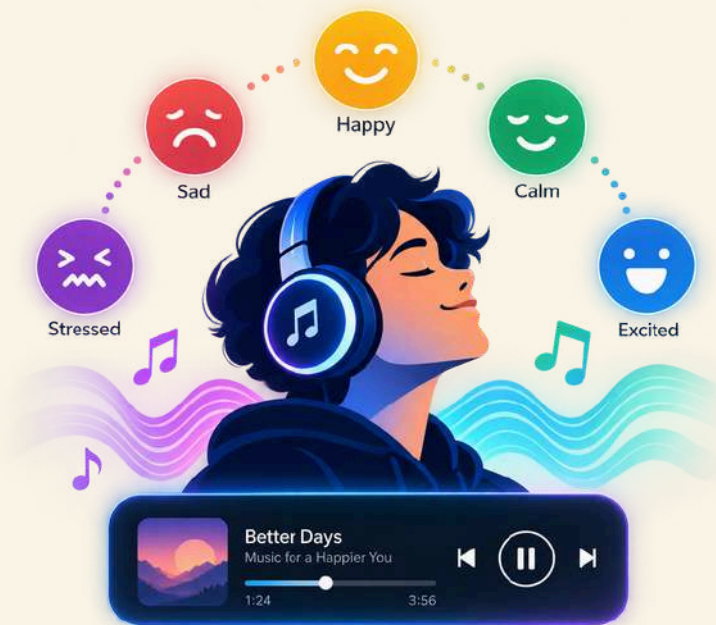


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TOC23IT015

EMOTION-BASED ADAPTIVE MUSIC PLAYER

This project aims to develop an intelligent music player that automatically recommends music based on the user's real-time emotional state. The system captures facial expressions through a webcam and uses deep learning-based emotion recognition to identify emotions such as happy, sad, angry, calm, neutral, and drowsy. Based on the detected emotion, suitable music is automatically recommended and played, with support for Spotify, YouTube, and local music libraries. The system also includes emotion trend analysis and a Study Mode with drowsiness detection using eye and facial landmarks. When fatigue is detected, the system can trigger alerts or switch to energetic music. An adaptive user interface also changes its theme according to the detected emotion, providing a personalized listening experience. The system is designed to reduce the need for manual playlist selection while creating a more responsive and personalized listening experience. It combines facial emotion recognition, music recommendation, and drowsiness monitoring into a single adaptive application for entertainment, emotional awareness, and improved concentration.



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AI-BASED HOUSE PRICE PREDICTION SYSTEM

This project aims to develop an AI-based house price prediction system that estimates the value of residential properties using important features such as area, number of bedrooms, location, age of the house, and nearby facilities. The system analyzes historical housing data to identify patterns and relationships between property features and prices. The data is organized and preprocessed by handling missing or unnecessary information before being used for prediction. A Random Forest Regression model is employed to learn from the available housing data and generate price estimates for new properties. The system also provides an indicative confidence range and evaluates prediction performance by comparing estimated prices with actual values. By automating property valuation, the project provides buyers, sellers, and real-estate planners with a quick and data-driven approach to understanding house prices. The system is designed to reduce the effort and subjectivity involved in traditional property valuation by providing automated price estimates based on relevant housing features. It combines machine learning, data preprocessing, and predictive analysis to support more informed property-related decisions.



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IT CHRONICLES

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*Together We
Innovate, Together
We Inspire*