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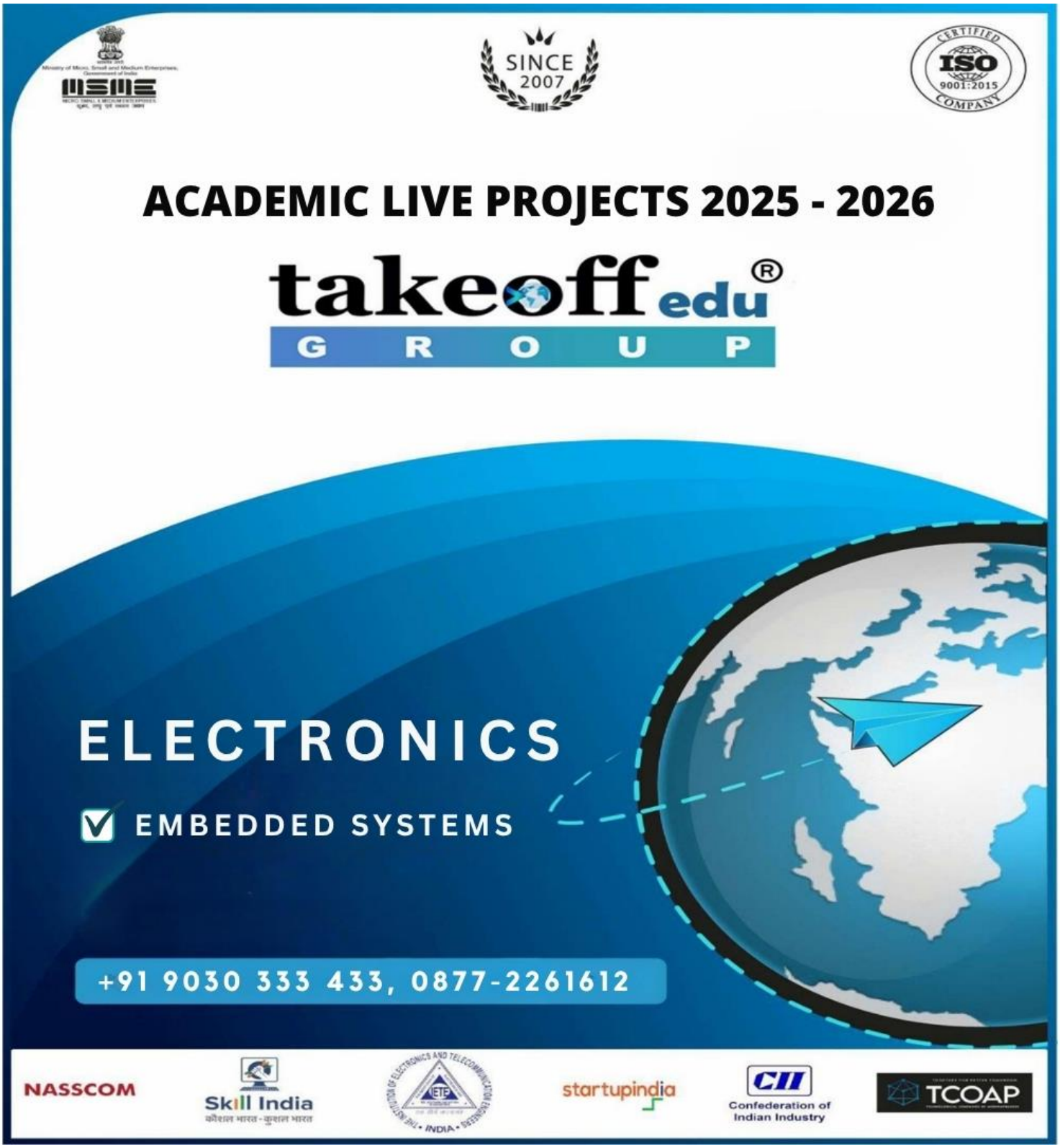

S. No	PROJECT CODE	TITLE	DOMAIN
1.	TEMBMA3698	**Enhanced And Light Weight Yolov8 Based Model For Accurate Rice Pest Detection** **Objective:** To detect rice pests using a lightweight YOLOv8 model. Aims for real-time, field-ready pest identification.	**AI**
2.	TEMBMA3687	**Fruit Monitoring and Harvest Date Prediction Using On-Tree Automatic Image Tracking** **Objective:** To monitor on-tree fruit growth-using automatic image tracking. Predicts optimal harvest dates to improve yield quality.	**Deep Learning**
3.	TEMBMA3693	**Low Cost, Multi Sensor Non Destructive Banana Ripeness Estimation Using Machine Learning** **Objective:** To estimate banana ripeness using multiple low-cost sensors. Machine learning enables accurate non-destructive analysis.	**Machine Learning**
4.	TEMBMA3694	**Enhancing Road Safety: Detection of Animals on Highways During Night** **Objective:** To detect animals on roads at night using ML and vision. Reduces collision risk and improves highway safety.	**Machine Learning**
5.	TEMBMA3695	**Steroid Level Detection in Milk Production** **Objective:** To identify steroid residues in milk using sensors and ML. Ensures dairy safety and regulatory compliance.	**Machine Learning**

6.	TEMBMA3734	**Development of an IoT-Enabled Smart Healthcare Monitoring System for Real-Time Patient Health Surveillance** **Objective:** The main objective is to develop a Smart Healthcare Monitoring System using IoT for real-time monitoring of vital signs like heart rate, temperature, and ECG via Arduino UNO and sensors. Data is displayed on an LCD, uploaded to the cloud, and alerts are sent for abnormal readings to enable remote care and early diagnosis.	**Biomedical**
7.	TEMBMA3696	**Efficient Web Based Automated Poultry Disease Detection Using Transfer Learning Models** **Objective:** To detect poultry diseases from images on a web interface. Uses pretrained models for quick and accurate diagnosis.	**AI**
8.	TEMBMA3735	**AIoT-Based Meat Quality Monitoring Using Camera and Gas Sensor With Wireless Charging** **Objective:** To evaluate meat freshness using gas sensors and cameras. Wireless charging powers real-time AI-based analysis.	**IOT**
9.	TEMBMA3700	**Automated Disease Detection in Oyster Mushroom Cultivation Using Deep Learning Technique** **Objective:** To develop a deep learning-based system for detecting diseases in oyster mushrooms using image data. The goal is to enable early diagnosis and improve yield quality in mushroom farming.	**Deep Learning**
10.	TEMBMA3736	**IoT and ML for Air Pollution Monitoring with Real Time Data and Prediction of Health Advisory** **Objective:** The main objective is to develop an IoT and ML-based system for real-time air pollution monitoring using sensors at traffic signals to track CO, CO_2, and smoke levels. It analyzes data with a Decision Tree Classifier to provide health advisories, safe travel routes and personalized recommendations via a mobile app.	**Machine learning**

11.	TEMBMA3737	**Real-Time GPS Tracking and Health Monitoring for Animals Using IoT and Mobile Application** **Objective:** The main objective is to develop an IoT-based real-time GPS and health monitoring system for animals to track location and heart rate using GPS and heartbeat sensors. Data is sent to a mobile app for live monitoring, with alerts on abnormal heart rates to support timely health interventions and prevent theft.	**IOT**
12.	TEMBMA3738	**IoT-Enhanced Battery Management System: Real-Time Monitoring, Predictive Analytics and Safety Optimization** **Objective:** The main objective is to develop an IoT-based Battery Management System for real-time monitoring and control of battery parameters using sensors, cloud integration and machine learning. It enhances safety, efficiency and longevity while enabling predictive Analytics to reduce maintenance costs and promote sustainable battery usage.	**IOT**
13.	TEMBMA3739	**Electric Vehicle Battery Parameters Monitoring System using IoT** **Objective:** The main objective is to develop an IoT-based system for real-time monitoring of electric vehicle battery metrics to enhance safety and lifespan. It uses predictive analytics for early warnings and optimized charging, with remote monitoring through a custom dashboard to improve performance and maintenance.	**IOT**
14.	TEMBMA3699	**IoT-Based Traffic Prediction for Smart Cities** **Objective:** To collect and predict urban traffic using IoT and ML Optimizes mobility and smart city planning.	**IOT**
15.	TEMBMA3703	**Pothole Detection Using Deep Learning Classification Method** **Objective:** To develop a deep learning-based classification model for detecting potholes in road images. The goal is to support timely maintenance and enhance transportation safety.	**Deep Learning**

16.	TEMBMA3757	**Yolo- Early Fire/Smoke Detection Using Deep Learning Yolo** **Objective:** To build a YOLO-based model for fast and accurate early detection of fire and smoke. The aim is to enable real-time alerts for improved safety and disaster Prevention.	**Deep Learning**
17.	TEMBMA3741	**Plant Leaf Detection and Disease Recognition using Deep Learning** **Objective:** To develop a deep learning model that detects plant leaves and identifies diseases from images. The goal is to support early diagnosis and improve crop yield through automation.	**Deep Learning**
18.	TEMBMA3742	**IoT-Based Gas Leak Detection and Fire Hazard Recognition System Using Image Processing for Household Safety Enhancement** **Objective:** The main objective is to develop an IoT-based system for early detection of gas leaks and fire hazards with real-time monitoring and automatic gas shutoff. It enhances household safety by sending instant emergency alerts.	**IOT**
19.	TEMBMA3688	**A Review of Metal Surface Defect Detection Technologies in Industrial Applications** **Objective:** To analyze technologies for detecting defects on metal surfaces. Focus is on AI trends in industrial quality control.	**Deep Learning**
20.	TEMBMA3692	**Work Place Safety: Machine Learning Techniques for Assessing Workplace Incident Severity** **Objective:** To assess workplace risk severity using machine learning. Helps in proactive safety planning and prevention.	**Machine Learning**

21.	TEMBMA3743	**ATMASAWADAHASTA: An Assistive Communication Device for Mobility and Speech- Impaired Patients** **Objective:** The main objective is to create a wearable glove that helps mobility and speech-impaired individuals communicate using touch sensors and text-to-speech technology.	**OpenCV**
22.	TEMBMA3744	**Hand Gestures Mechanism for Controlling and Supervising the Smart Mattress** **Objective:** The main objective is to develop a smart mattress system that adjusts bed positions using hand gestures for easier control, especially for disabled patients. It also monitors vital signs and sends alerts to doctors to improve patient safety and comfort.	**Biomedical**
23.	TEMBMA3745	**Satellite-Based Forest Stand Detection Using Artificial Intelligence** **Objective:** To detect and classify forest stands using satellite imagery. AI helps automate and scale forest monitoring.	**AI**
24.	TEMBMA3707	**A Low Computational Cost Deep Learning Approach for Localization and Classification of Diseases and Pests in Coffee Leaves** **Objective:** To classify pests and diseases on coffee leaves efficiently. Uses low-resource DL models for remote areas.	**Deep Learning**
25.	TEMBMA3746	**Water Leakage Detection and Recognition System** **Objective:** The main objective is to develop an IoT-based system that detects water leaks in real-time using sensors and machine learning for accurate prediction. It aims to send quick alerts to users to prevent water loss and improve leak management.	**Machine learning**
26.	TEMBMA3747	**IoT Enabled Device-to-Device Communication for Smart City Application** **Objective:** The main objective is to create an IoT system that enables direct communication between devices for smart home control, improving energy efficiency and convenience. It allows users to remotely manage appliances through a mobile app with reliable and low-latency connections.	**IOT**

27.	TEMBMA3748	**Low-Cost, Multisensor Non-destructive Banana Ripeness Estimation Using Machine Learning.** **Objective:** The main objective is to develop a low-cost, nondestructive system to estimate banana ripeness using multiple sensors and machine learning. It aims to provide quick and accurate ripeness detection to improve fruit handling and reduce waste.	**Machine learning**
28.	TEMBMA3749	**Smart Temperature Monitoring System with GPS Integration for Pharmaceutical Safety** **Objective:** The main objective is to develop a low-cost Arduino-based system for real-time temperature monitoring with GPS and mobile app support. It aims to ensure pharmaceutical safety by sending alerts when temperatures cross set limits.	**Embedded Applications**
29.	TEMBMA3750	**Design of Intelligent Wardrobe System Based on IoT Technology** **Objective:** The main objective is to design an IoT-based smart wardrobe that offers features like dehumidification, temperature and humidity monitoring, and smart lighting. It aims to help users organize clothes easily, prevent mildew, and get daily outfit suggestions.	**IOT**
30.	TEMBMA3751	**Design and Implementation of an IoT-Enabled Rover with ESP3 CAM for Object Detection, Environmental Monitoring, and Web-Based Control** **Objective:** The main objective is to design an IoT-enabled rover using ESP32-CAM for object detection and environmental monitoring. It aims to provide real-time data and remote control for uses like farming, surveillance, and disaster response.	**IOT**

31.	TEMBMA3714	**IVEMPS: IoT-Based Vehicle Emission Monitoring and Prediction System** **Objective:** The main objective is to develop an IoT-based system that monitors and predicts vehicle emissions in real time using gas sensors and deep learning. It aims to identify high-emission vehicles early and support pollution control through a web-based dashboard.	**IOT**
32.	TEMBMA3752	**RF and IoT-Driven Automated Lane Clearance System for Enhanced Emergency Response** **Objective:** The main objective is to develop an automated lane clearance system using RF and IoT technologies that enables real-time communication between ambulances, vehicles, and traffic signals. This system aims to clear traffic paths quickly and control signals to reduce ambulance response times and improve emergency services in congested urban areas.	**IOT**
33.	TEMBMA3753	**Utilization of Li-Fi Technology for Black Box in Ground Vehicles** **Objective:** The objective is to develop a low-cost, universal Black Box for vehicles using Li-Fi technology to enable fast data communication for accident analysis, safety improvement, and quicker emergency response. The system also facilitates car-to-car communication to detect collision risks early, enhancing road safety and aiding insurance and medical processes.	**WSN**
34.	TEMBMA3690	**Plant Disease Classification Using an Ensemble Learning Model of Convolutional Neural Networks and Vision Transformers** **Objective:** To combine CNN and ViT for robust plant disease detection. Boosts accuracy and adaptability in agriculture.	**Deep Learning**
35.	TEMBMA3754	**Intelligent Energy-Efficient GNSS-Assisted and Lora-Based Positioning for Wildlife Tracking** **Objective:** The objective is to develop an energy-efficient wildlife tracking system using Lora WAN modules to collect RSSI and SNR data, combined with GNSS modules for occasional position updates, and use trajectory information for accurate location estimation. This system aims to balance precise tracking with low power use to extend monitoring time.	**WSN**

36.	TEMBMA3758	**Enhancing Care and Communication for Paralyzed Patients: A Microcontroller-Based Gesture Sensor Approach with GSM Integration** **Objective:** The project uses a microcontroller with gesture sensors to detect hand movements from paralyzed patients and sends alerts through a GSM module for easy communication. This system helps improve patient care by enabling quick and reliable emergency notification.	**Embedded Applications**
37.	TEMBMA3755	**Web-Server Controlled Rover with Robotic Arm and Object Detection** **Objective:** The objective is to design a web-server controlled rover with a robotic arm that allows remote movement and object detection using camera modules. This system enables real- time control and monitoring for efficient automation and interaction.	**Robotics**
38.	TEMBMA3756	**A Real-Time Intelligent System Based on Machine-Learning Methods for Improving Communication in Sign Language** **Objective:** The objective is to develop an intelligent system using a camera and machine learning to accurately recognize and translate sign language gestures into text or speech. This helps improve communication for people who use Sign language.	**Machine-Learning**
39.	TEMBMA3709	**A Portable Real-Time Electronic Nose for Evaluating Seafood Freshness Using Machine Learning** **Objective:** To detect seafood freshness using gas sensors and ML. Offers portable, real-time spoilage prediction.	**Machine Learning**
40.	TEMBMA3710	**Fast and High-Precision Human Fall Detection Using Improved YOLOv8 Model** **Objective:** To detect human falls quickly using an optimized YOLOv8. Provides real-time alerts in care or surveillance systems.	**AI**

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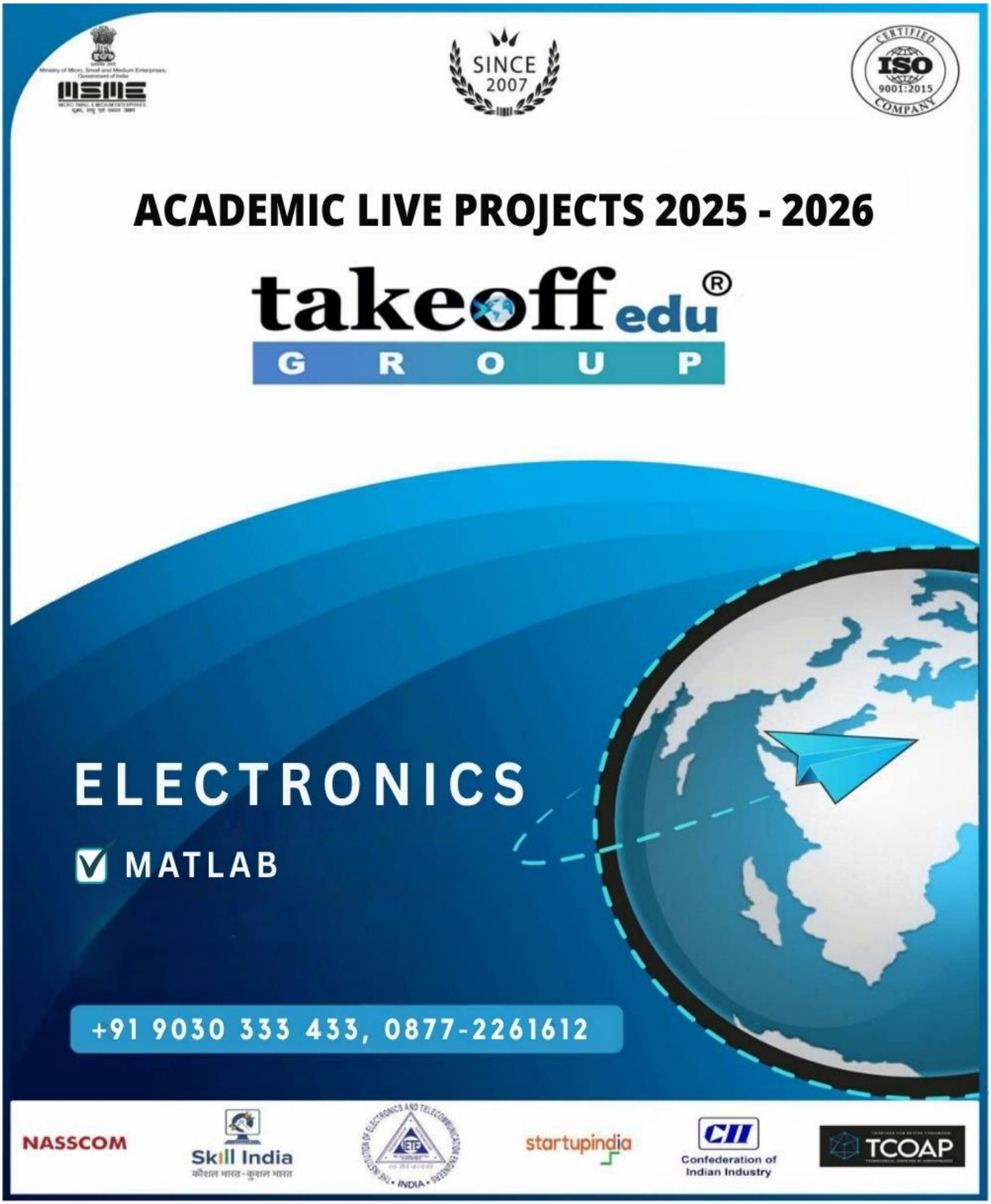

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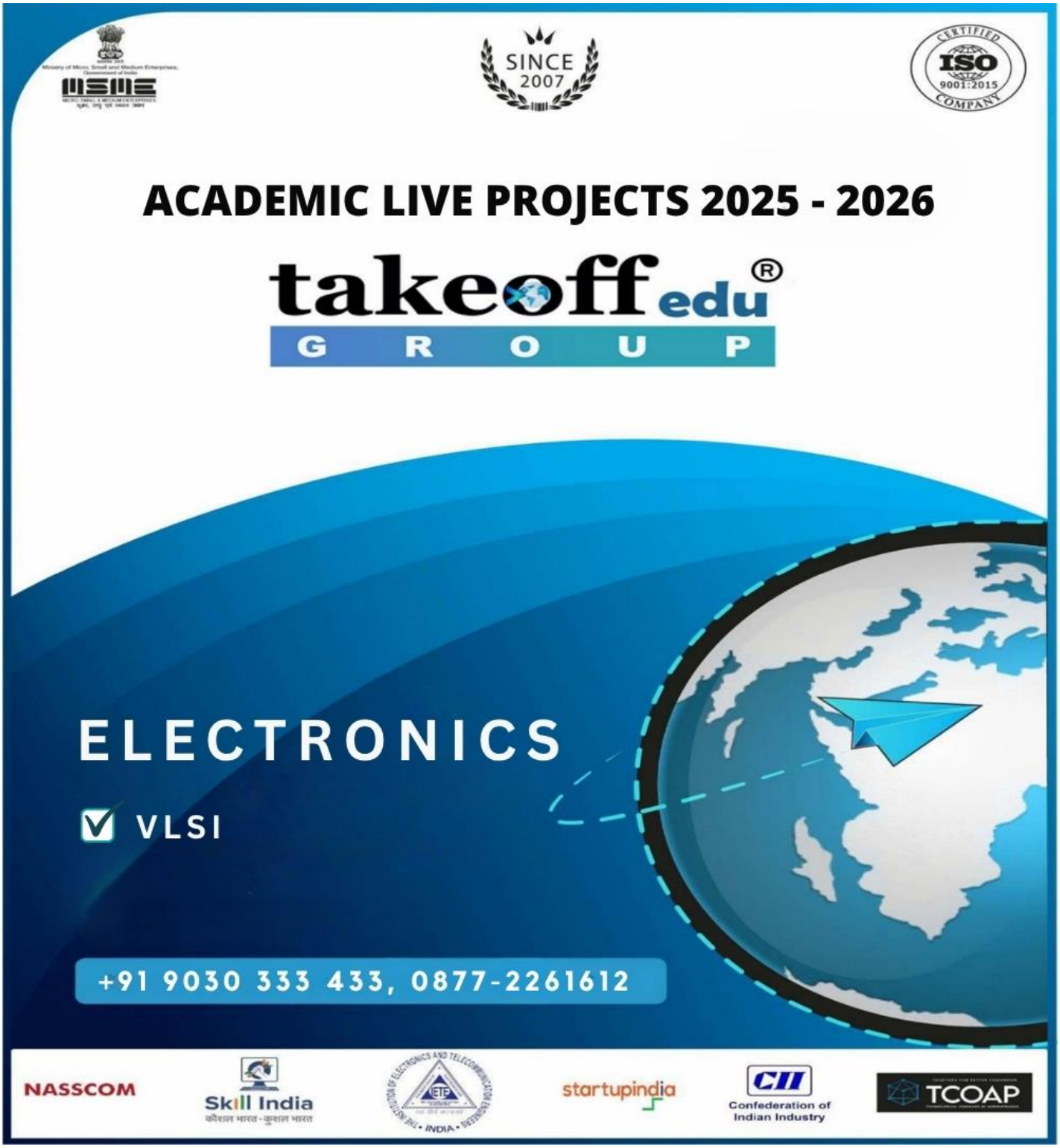
LATEST MATLAB ACADEMIC LIVE PROJECTS 2025-2026

S. No	Project Code	Title	Domain
1.	TMMACO171	**Deep Reinforcement Learning-Driven Secure ISAC Optimization Using STAR-RIS in 6G Networks** **Objective:** To develop a DRL-based framework using Soft Actor-Critic for optimizing secure multi-user ISAC systems with STAR-RIS, enhancing 6G communication, sensing, and security performance.	Communication
2.	TMMACO172	**Secure THz Communication in 6G: A Two-Stage DRL Approach for IRS-Assisted NOMA** **Objective:** To optimize secrecy energy efficiency in IRS – assisted THz – NOMA systems using a two-stage DDPG-based deep reinforcement learning approach.	Communication
3.	TMMACO174	**Performance Enhancement of V2V Communication by QC-LDPC Code and NOMA-UM-MIMO Techniques** **Objective:** This project aims to enhance V2V communication reliability and capacity by integrating QC-LDPC coding, NOMA, and UM-MIMO under Rician fading using MATLAB-based performance evaluation.	Communication
4.	TMMAIP453	**AI-Synthesized Image Detection: Source Camera Fingerprinting to Discern the Authenticity of Digital Images** **Objective:** This study aims to detect AI-generated facial images by extracting deep features using ResNet-101 and classifying them with an SVM for reliable authenticity verification.	Image Processing/Artificial Intelligence
5.	TMMAIP446	**BorB: A Novel Image Segmentation Technique for Improving Plant Disease Classification with Deep Learning Models** **Objective:** To develop BorB, an image segmentation technique using RGB and Lab b-channels to enhance plant disease classification accuracy with deep learning for precision agriculture applications.	Image Processing/Artificial Intelligence
6.	TMMAAI382	**Early Diagnosis of Alzheimer's Disease Using Adaptive Neuro K-Means Clustering Technique** **Objective:** To develop an efficient diagnostic model for early Alzheimer's detection using AMSOM-FKM segmentation, GLCM feature extraction, PCA-based reduction, and multi-class classification of brain MRI images.	Image Processing/Artificial Intelligence

7.	**TMMASP216**	**A Resource-Efficient Time-Domain-Based Algorithm to Estimate Respiration Rate from Single-Lead ECG Signal** **Objective:** To develop a computationally efficient time-domain MPD algorithm for accurate breath rate estimation from single-lead ECG signals, enabling real-time wearable respiratory monitoring.	**Signal Processing**
8.	**TMMASP221**	**A Deep and Interpretable Learning Approach for Long-Term ECG Clinical Noise Classification** **Objective:** The objective is to develop explainable deep learning models to classify clinical noise severity in long-term ECG recordings, improving diagnostic accuracy and enhancing clinician trust in AI-based decision support.	**Signal Processing**
9.	**TMMASP222**	**Efficient Nearly Piecewise Continuous Signal Basis Expansion by Precision Calculation** **Objective:** This study proposes an adaptive signal expansion method that accurately reconstructs nearly piecewise continuous 1D signals by segmenting and expanding smooth and large-gradient regions separately.	**Signal Processing**
10.	**TMMACO159**	**Enhancing Security and Privacy in 5G Device-to Device Communication: A Secure Gale-Shapley Algorithm Approach** **Objective** To develop a robust AI-driven security framework for D2D communication in 5G networks, enhancing performance and protecting user data through adaptive jamming, differential privacy, MPC, and lightweight encryption.	**Communication**
11.	**TMMAIP445**	**A Comparative Study of Image Processing Techniques for Javanese Ancient Manuscripts Enhancement** **Objective** To evaluate and compare multiple image enhancement techniques for improving the readability and structural clarity of degraded Javanese ancient manuscripts using MATLAB, aiding in digital preservation and cultural documentation.	**Image Processing/Artificial Intelligence**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S.No	Project I'd	Title	Domain
1.	TVMABE309, TVMABE310	**Analysis of Low area Digital up/down clipping counter for digital In-memory counting** **Objective:** The objective is to design and analyze a low- area digital up/down clipping counter optimized for in- memory computing applications. This involves developing a counter architecture that minimizes silicon area while supporting efficient counting operations with upper and lower bounds (clipping behavior). The focus is on evaluating the counter's performance in terms of area, speed, and power, ensuring its suitability for integration in digital in-memory computing systems where memory and logic are co-located to improve data access efficiency and reduce latency.	**BackEnd Domain / Transistor Logic**
2.	TVMABE304, TVMABE305	**Design and implementation of 16 Bit SAR ADC for high resolution** **Objective:** Build a high-resolution SAR ADC capable of 16-bit accuracy by leveraging advanced calibration, low-noise comparator and CDAC design, and optimized architecture (segmented CDAC, redundancy, efficient SAR logic), all while maintaining practical speed, low power, and manufacturable silicon performance.	**BackEnd Domains / Transistor Logic**
3.	TVMABE318	**Design and Implementation of High-Speed Carry Look-Ahead Decimal Adder (CLDA) Using CMOS Technology** **Objective:** The objective is to design and implement a high-speed Carry Look-Ahead Decimal Adder (CLDA) using CMOS technology for enhanced arithmetic performance in digital systems. The project aims to improve the speed of decimal addition by reducing carry propagation delay through parallel carry generation logic. Using CMOS-based circuit design, the focus is on optimizing parameters such as delay, power consumption, and area, making the adder suitable for high-performance arithmetic units in processors, digital signal processing (DSP), and real-time computing applications.	**BackEnd Domains / Transistor Logic**

4.	**TVMABE311**	**Experimental Verification and Evaluation of Non Stateful Logic Gates in Resistive RAM** **Objective:** The objective is to experimentally verify and evaluate the functionality and performance of non-stateful logic gates implemented using Resistive RAM (ReRAM) technology. This includes designing logic gates that operate without storing intermediate logic states, thereby enabling in-memory computing with reduced latency and power consumption. The study aims to assess key metrics such as switching speed, reliability, energy efficiency, and scalability, establishing the potential of non-stateful ReRAM- based logic as a low-power alternative to conventional CMOS logic in emerging computing architectures.	**BackEnd Domains / Transistor Logic / low power**
5.	**TVMABE319**	**Ternary Toward Binary: Circuit-Level Implementation of Ternary Logic Using Depletion- Mode and Conventional MOSFETs** **Objective:** The objective is to design and implement ternary logic circuits at the transistor level using a combination of depletion-mode and conventional enhancement-mode MOSFETs. This project aims to explore multi-valued logic (MVL) as an alternative to binary logic, focusing on reducing circuit complexity, interconnect overhead, and power consumption. By bridging ternary logic with binary-compatible interfaces, the study evaluates the feasibility, performance, and efficiency of implementing compact, low-power logic circuits suitable for future digital and Nano electronics systems.	**BackEnd Domains / Transistor Logic / low power**
6.	**TVMABE320**	**RISC-V CPU Design Using RRAM-CMOS Standard Cells** **Objective:** The objective is to design a RISC-V CPU architecture using hybrid RRAM-CMOS standard cells to leverage the benefits of non-volatile memory integration in logic design. This project explores the fusion of Resistive RAM (RRAM) with conventional CMOS technology to reduce power consumption, enhance area efficiency, and enable in-memory computing capabilities. The goal is to evaluate the performance, energy efficiency, and scalability of a RISC-V core implemented with RRAM-CMOS logic, aiming to advance energy-efficient processor design for emerging applications such as IoT, edge computing and neuromorphic systems.	**BackEnd Domains / Transistor Logic / low power**

7.	**TVMABE317**	**Operational Current Amplifier-Based Quadrature Oscillators Family** **Objective:** To develop a systematic family of quadrature oscillator structures by transforming well- known voltage-mode, active-RC oscillator schemes into pure current-mode configurations using OCAs, via the ad joint network theorem.	**BackEnd Domains / Transistor logic**

PROJECT SUPPORTS FOR STUDENTS:

- PROJECT ABSTRACT
- PROJECT IEEE BASE PAPER/ REFERENCE PAPER
- PROJECT PRESENTATION IN PPT FORMAT
- PROJECT REVIEW ASSISTANCE FOR VIVA
- PROJECT DIAGRAMS
- PROJECT SOURCE CODE
- PROJECT REPORT
- PROJECT SCREEN SHOTS
- PROJECT DEMO
- PROJECT EXPLANATION
- PLAGARISM DOCUMENTATION
- INTERNATIONAL JOURNAL/CONFERENCE PUBLISHING
- PROJECT ACCEPTANCE LETTER
- PROJECT COMPLETION CERTIFICATE


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