



ACADEMIC LIVE PROJECTS 2023 - 24

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G R O U P

ELECTRONICS

- ✓ Embedded Systems
- ✓ MATLAB
- ✓ VLSI & more

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S. No	WEBSITE ID	TITLE	DOMAIN
1	TEMBMA3399	<p>Smart Temperature-dependent Cooling of Solar Panel using Arduino</p> <p>The main objective of this project is to optimize solar panel performance and lifespan by implementing a smart temperature-dependent cooling system using Arduino for efficient heat regulation</p>	Renewable
2	TEMBMA3400	<p>Monitoring and Warning of Flooding Conditions Using IOT Based System</p> <p>The main objective of this project is to develop an IOT-based system for monitoring and providing timely warnings for flooding conditions, ensuring proactive response and mitigation measures</p>	IOT
3	TEMBMA3401	<p>IOT-Based Non-Intrusive Automated Driver Drowsiness Monitoring Framework for Logistics and Public Transport Applications to Enhance Road Safety</p> <p>The main objective of this project is to design and implement an IOT-based automated driver drowsiness monitoring framework for logistics and public transport applications, aimed at enhancing road safety through non-intrusive monitoring and timely alerts</p>	IOT
4	TEMBMA3402	<p>IOT-Based Navigation Assistance for Visually Impaired People</p> <p>The main objective of this project is to create an IOT-based navigation assistance system specifically for visually impaired individuals, providing them with guidance to enhance their mobility and independence</p>	IOT
5	TEMBMA3403	<p>IOT-Based Digital LPG Gas Cylinder Trolley to Prevent Hazards with Voice-Controlled Features</p> <p>The main objective of this project is to develop an IOT-based digital LPG gas cylinder trolley with voice-controlled features to enhance safety measures, prevent hazards, and ensure efficient handling of gas cylinders.</p>	IOT

6	TEMBMA3404	<p>IOT-Based Automatic Shed System to Prevent Unwanted Rain for Growing Crops</p> <p>The main objective of this project is to create an IOT-based automatic shed system to protect growing crops from unwanted rain, optimizing agricultural conditions and ensuring the optimal growth and health of the plants</p>	IOT
7	TEMBMA3405	<p>IOT Based IV Pole Monitoring System</p> <p>The main objective of this project is to design and implement an IOT-based IV pole monitoring system to enhance patient safety and healthcare efficiency by remotely monitoring IV fluid levels and providing alerts for timely interventions.</p>	IOT
8	TEMBMA3406	<p>Development of An Automated IOT-based Fish Tank Maintenance Assistive System</p> <p>The main objective of this project is to develop an automated IOT-based fish tank maintenance system for optimal water quality, temperature control, and feeding</p>	IOT
9	TEMBMA3407	<p>An IOT based Cost Effective Intelligent Irrigation System for Farmers</p> <p>The main objective of this project is to design and implement a cost-effective IOT-based intelligent irrigation system for farmers, enabling efficient water usage by integrating real-time environmental data, soil moisture monitoring, and automated control, thereby enhancing crop yield while minimizing water wastage and costs</p>	IOT
10	TEMBMA3408	<p>An IOT-Based COVID Patient Health Control System</p> <p>The main objective of this project is to develop an IOT-based COVID patient health control system to remotely monitor health data, reducing the risk of viral transmission</p>	Biomedical

11	TEMBMA3409	<p>Analysis of Soil Nutrients and Water Levels Using Internet of Things (IOT) for Different Land Use Options</p> <p>The main objective of this project is to check soil parameters and water levels using IOT technology for various land use so that it will be useful for land management practices, increases resource utilization</p>	IOT
12	TEMBMA3410	<p>Arduino Employed Power Theft Controller and IOT based Load Controlling for Smart Energy Meter System</p> <p>The main objective of this project is to measure currents at load using Energy meter and if it increases threshold current then we say that power theft Occurred</p>	Electrical
13	TEMBMA3411	<p>Building a Smart City: A Conceptual Approach to Real-Time Urban Flood Control System</p> <p>The main objective of this project is to implement a conceptual approach for building a smart city with urban flood control system, utilizing technologies such as IOT and predictive modeling to effectively monitor and manage flood-prone areas, ensuring the safety of residents and minimizing infrastructure damage</p>	Embedded applications
14	TEMBMA3412	<p>Design and Implementation of IOT based Energy Efficient Smart Metering System for Domestic Applications</p> <p>The main objective of this project is to enable monitoring of energy consumption for optimal energy usage</p>	Electrical
15	TEMBMA3413	<p>Development of IOT Enabled Framework for LPG leakage detection and weight monitoring system</p> <p>The main objective of this project is to develop an IOT system for LPG leakage detection and weight monitoring system, utilizing sensors to detect gas leaks and monitor the weight of LPG cylinders, so that we can provide safety and alerts for appropriate action.</p>	Embedded applications

16	TEMBMA3414	<p>Design For Dust Cleaning Robot Using Embedded System</p> <p>The main objective of this project is to design an embedded system for a dust cleaning robot, to improve cleanliness with reduced manual effort.</p>	Robotics
17	TEMBMA3415	<p>Women Safety Night Patrolling IOT Robot</p> <p>The main objective of this project is to create an IOT-based robot for night patrolling for women's safety, incorporating sensors and communication to detect and respond to threats, which may solution for ensuring security in urban environments</p>	Robotics
18	TEMBMA3416	<p>Artificial Intelligence and IOT based detection of pesticide in organic fruits and vegetables</p> <p>The main objective of this project is to develop an IOT-based system to detect pesticide presence in organic fruits and vegetables through gas sensor to provide safety and quality of agricultural products</p>	Embedded applications
19	TEMBMA3417	<p>Automatic Industrial Fault Detection and IOT based Remote Monitoring</p> <p>The main objective of this project is to design an automatic industrial fault detection system with IOT-based remote monitoring capabilities, enabling identification of faults and monitoring of industrial processes for improved efficiency and maintenance.</p>	Electrical
20	TEMBMA3418	<p>Arduino based Smart Water Management System for Water Loss Reduction</p> <p>The main objective of this project is to create an Arduino-based smart water management system to minimize water loss, incorporating sensors, and automated control for efficient water usage and leak detection</p>	Embedded applications
21	TEMBMA3419	<p>IOT Based Remote Surveillance For Animal Tracking Near Railway Tracks</p>	Embedded applications

		The main objective of this project is to develop an IOT-based remote surveillance system for animal tracking near railway tracks, using sensors, connectivity, and monitoring to detect and track animals for their safety, prevent accidents, and improve wildlife conservation	
22	TEMBMA3420	<p>IOT Based Heart attack Detection and Heart Rate Monitoring System</p> <p>The main objective of this project is to detect heart beat values and uploading them to server for monitoring and generating alerts accordingly</p>	Biomedical
23	TEMBMA3421	<p>Automatic Billing Trolley for an Enhanced Supermarket using RFID</p> <p>The main objective of this project is to develop an automatic billing trolley system for better operations using RFID technology, enabling automated billing for improving customer experience</p>	Embedded applications
24	TEMBMA3422	<p>A Novel Vehicle Security System using Driver's License and Fingerprint Automation</p> <p>The main objective of this project is to create vehicle security system that employs driver's license and fingerprint automation, utilizing biometric authentication technology to enhance vehicle security, prevent unauthorized access, and ensure the safety of vehicles and their owners</p>	Embedded applications
25	TEMBMA3423	<p>Empowering Women's Safety with smart IOT Technology: A Robust Protection System</p> <p>The main objective of this project is to Implement protection system using smart IOT technology to empower women's safety, utilizing sensors, monitoring, and alert mechanisms for effective security and creating a safer environment</p>	IOT
26	TEMBMA3424	<p>Design and Implementation of a Google Assistant Home Automation System</p>	WSN

		The main objective of this project is to design and implement a homes automation system that integrates with Google Assistant, enabling voice-controlled management of various devices like bulb and cpu fan	
27	TEMBMA3425	<p>Automatic Panel Board with Protection System in Agri-Irrigation</p> <p>The main objective of this project is to monitor agriculture parameters and to control respective motors from a server which improves operations of farmers</p>	Embedded applications
28	TEMBMA3426	<p>Smart City Waste Management System using IOT</p> <p>The main objective of this project is to implement a smart city waste management system using IOT technology, integrating sensors and monitoring to optimize waste collection, reduce environmental impact, and promote sustainable waste management practices in urban areas.</p>	IOT
29	TEMBMA3427	<p>Monitoring Toxic Gases Using Nanotechnology and Wireless Sensor Networks</p> <p>The objective of this project is to develop a highly efficient system for monitoring toxic gases through wireless sensor networks, ensuring timely detection and mitigation of potential hazards</p>	WSN
30	TEMBMA3428	<p>Blind Navigation Support System using Raspberry Pi & YOLO</p> <p>The objective of this project is to create a Blind Navigation Support System utilizing Raspberry Pi and YOLO (You Only Look Once) technology, aiming to enhance the independence and safety of visually impaired individuals in indoor and outdoor environments.</p>	Open CV
31	TEMBMA3429	<p>Dam Management and Disaster Monitoring System using IOT</p> <p>The objective of this project is to implement a Dam Management and Disaster Monitoring System using IOT (Internet of Things) technology, with the goal of ensuring efficient dam operation, early detection of potential disasters, and effective mitigation strategies</p>	IOT
32	TEMBMA3430	<p>Design and Implementation of a Smart Electric Fence Built on Solar with an Automatic Irrigation System</p> <p>The objective of this project is to develop and deploy a Smart Electric Fence powered by solar energy, equipped with an automatic irrigation system, to provide effective security against intruders while simultaneously ensuring sustainable irrigation for enhanced land management and resource utilization</p>	Embedded Applications

33	TEMBMA3431	<p>Development of an IOT Based Photovoltaic Monitoring System Using Hybrid Modeling</p> <p>The objective of this project is to create an IOT-based Photovoltaic Monitoring System that employs hybrid modeling techniques, aiming to enhance the efficiency and performance of photovoltaic systems through real-time data collection</p>	IOT
34	TEMBMA3432	<p>A Smart Tele-Healthcare System for Real-Time Health Monitoring and Remote Consultation</p> <p>The objective of this project is to design and implement a Smart Tele-Healthcare System that enables real-time health monitoring and remote consultation, utilizing advanced technologies to provide timely medical insights and expert advice for improved patient care and health outcomes</p>	BIO MEDICAL
35	TEMBMA3433	<p>Enhancement of Agriculture Productivity and Automation of Agriculture using IOT</p> <p>The main objective of this project is to enhance agricultural productivity and efficiency through the implementation of IOT-based automation, thereby revolutionizing traditional farming practices for optimal resource utilization and remote monitoring</p>	IOT
36	TEMBMA3434	<p>E-medicine: Health Care Monitoring System based on IoMT</p> <p>The main aim of this project is to establish an E-medicine healthcare monitoring system based on IoMT, aiming to revolutionize patient care through remote monitoring and data-driven medical insights</p>	BIO MEDICAL
37	TEMBMA3435	<p>Embedded based Smart Accident Pre-Alert and Prevention System with Machine Learning</p> <p>The main objective of this project is to develop an embedded-based smart accident pre-alert and prevention system using machine learning</p>	Machine Learning
38	TEMBMA3436	<p>Development of Automated Nutrient Composition Control for Fertigation System Using IOT Application</p> <p>The main objective of this project is to create an automated nutrient composition control for a fertigation system using IOT application</p>	IOT
39	TEMBMA3437	<p>Design of Drowsiness and Yawning Detection System</p> <p>The main objective of this project is to design a drowsiness and yawning detection system using OpenCV. This system will leverage OpenCV's computer vision capabilities to detect signs of driver fatigue, such as drowsiness and yawning, and trigger timely alerts</p>	Open CV

40	TEMBMA3438	<p>Cloud Controlled Home Safety and Management Solution for Equipment Automation via Internet</p> <p>The main objective of this project is to develop a cloud-controlled home safety and management solution that enables equipment automation through the Internet, enhancing convenience and security for homeowners</p>	IOT
41	TEMBMA3439	<p>Automatic Seat Identification System in Smart Transport using IOT and Image Processing</p> <p>The main objective of this project is to create an automatic seat identification system in smart transport utilizing IOT and image processing techniques</p>	IOT
42	TEMBMA3440	<p>Automatic Fall Detection system for patients with Parkinson's disease</p> <p>The main objective of this project is to develop an automatic fall detection system for patients with Parkinson's disease</p>	BIO MEDICAL
43	TEMBMA3441	<p>AI Enabled Smart Campus for Health Safety and Monitoring</p> <p>The main objective of this project is to enhance health safety and monitoring within smart campus by implementing an accurate face mask detection system using an MLX90614 sensor and camera</p>	Open CV
44	TEMBMA3442	<p>Vehicle Anti-theft Face Recognition System, Speed Control and Obstacle Detection using Raspberry Pi</p> <p>The main objective of this project is to create a comprehensive vehicle anti-theft solution incorporating face recognition, speed control, and obstacle detection, all facilitated by Raspberry Pi technology</p>	Embedded Application s
45	TEMBMA3443	<p>Smart Weather Station using Development Boards for Environmental Applications</p> <p>The main objective of this project is to develop a smart weather station for environmental applications, utilizing development boards to collect and analyze weather data efficiently</p>	Embedded Application s
46	TEMBMA3444	<p>Toward Autonomous Farming—A Novel Scheme Based on Learning to Prediction and Optimization for Smart Greenhouse Environment Control</p> <p>The main objective of this project is to establish an innovative approach for autonomous farming by leveraging sensor data and</p>	Embedded Application s

		optimization techniques to achieve intelligent control of the greenhouse environment in a smart and efficient manner.	
47	TEMBMA3445	<p>Real Time Monitoring of Forest Fires and Wildfire Spread Prediction</p> <p>The main objective of this project is to develop a system for monitoring of forest fires and wildfire spread using sensor-based technologies</p>	Embedded Applications
48	TEMBMA3446	<p>Optimised Home Electricity Management using Machine Learning</p> <p>The main objective of this project is to implement optimized home electricity management through sensor-based solutions. By utilizing sensors for data collection and analysis, the project aims to enhance energy efficiency and consumption patterns.</p>	Electrical
49	TEMBMA3447	<p>Milk Safe: A Hardware-Enabled Milk Quality Prediction using Machine Learning</p> <p>The main objective of this project is to develop Milk Safe, a system that predicts milk quality through hardware-enabled data collection. By integrating sensors, the project aims to ensure accurate and timely assessment of milk quality.</p>	Embedded Applications
50	TEMBMA3448	<p>Design and Development of an Automated Hydroponics System based on IOT with Data Logging</p> <p>The main objective of this project is to design and develop an automated hydroponics system using IOT technology, incorporating data logging for efficient and controlled cultivation practices</p>	IOT
51	TEMBMA3449	<p>Development of Weight System Embedded with Tracking System using Arduino UNO Rev3</p> <p>The main objective of this project is to develop a weight system embedded with a tracking system using Arduino UNO Rev3 for monitoring and management of objects' weight and location</p>	Arduino
52	TEMBMA3450	<p>Arduino based Wheelchair Fall Detection System using GPS and GSM Module</p> <p>The main objective of this project is to create an Arduino-based wheelchair fall detection system that utilizes GPS and a GSM module to immediately alert caregivers or authorities in the event of a fall,</p>	Arduino

		ensuring prompt assistance for the user.	
53	TEMBMA3451	<p>Arduino Uno Based Swarm Intelligence Robots</p> <p>The main objective of this project is to develop swarm intelligence robots using Arduino Uno, enabling them to autonomously collaborate and solve complex tasks through decentralized communication and coordination.</p>	Arduino
54	TEMBMA3452	<p>A simple Design of Automatic Bag Valve Mask Ventilator using Arduino</p> <p>The main objective of this project is to design a simple automatic Bag Valve Mask (BVM) ventilator using Arduino to provide controlled and consistent mechanical ventilation support to patients in need, particularly during emergency situations like the COVID-19 pandemic</p>	Arduino
55	TEMBMA3453	<p>Implementation of Secure Smart Cart for Automatic Detection of Objects Using Arduino and RFID</p> <p>The main objective of this project is to implement a Secure Smart Cart for automatic detection of objects using Arduino and RFID technology, enhancing the efficiency and security of the shopping experience.</p>	Arduino
56	TEMBMA3454	<p>Handy Non-Invasive Blood Glucose Estimator using Arduino and Node MCU</p> <p>The main objective of this project is to develop a non-invasive blood glucose estimator using Arduino and Node MCU, providing a convenient and accessible means for individuals to monitor their blood glucose levels without the need for invasive procedures</p>	Arduino
57	TEMBMA3455	<p>Smart Pain Relief Device for Varicose Veins using IOT & Arduino</p> <p>The main objective of this project is to create a smart pain relief device for varicose veins using IOT and Arduino, offering patients an intelligent and effective solution for managing pain and discomfort associated with varicose veins through remote monitoring</p>	Arduino
58	TEMBMA3456	<p>Arduino Based Vehicle Overload Detection System for Prevention of Accidents</p> <p>The main objective of this project is to develop an Arduino-based vehicle overload detection system aimed at preventing accidents by monitoring and alerting against vehicle overloading, thereby enhancing road safety</p>	Arduino

59	TEMBMA3457	<p>A Robotics-Based Surveillance System for Livestock Wellbeing and Early Disease Detection in Poultry Farms</p> <p>The main objective of this project is to implement a robotics-based surveillance system in poultry farms to ensure the wellbeing of livestock and enable early detection of diseases, thereby improving the overall health and productivity of the poultry farm.</p>	Robotics
60	TEMBMA3459	<p>IOT Based Bio Shed for Agricultural Purpose</p> <p>The main objective of this project is to establish an IOT-based bio shed for agricultural purposes, integrating technology to optimize and monitor various aspects of agricultural operations, ultimately enhancing crop yield and sustainability.</p>	IOT
61	TEMBMA3460	<p>IOT Framework for Real Time Weather Monitoring using Machine Learning Techniques</p> <p>The main objective of this project is to develop an IOT framework for real-time weather monitoring that incorporates machine learning techniques, enabling accurate prediction and analysis of weather conditions for various applications and industries.</p>	IOT
62	TEMBMA3461	<p>Design and Implementation of an Interoperable IOT Based Health Monitoring System for Diabetes</p> <p>The main objective of this project is to design and implement an interoperable IOT-based health monitoring system for diabetes, allowing seamless data exchange and remote monitoring of diabetic patients to enhance their overall healthcare management</p>	BIO MEDICAL
63	TEMBMA3462	<p>Smart Automated Kitchen System using Internet of Things</p> <p>The main objective of this project is to create a smart automated kitchen system using the Internet of Things (IOT) to optimize and enhance various kitchen processes, making cooking and food preparation more efficient, convenient, and connected.</p>	IOT
64	TEMBMA3463	<p>Intelligent Solar Based Climate Adjustable E-Uniform for Soldiers</p> <p>The main objective of this project is to develop an intelligent solar-based climate-adjustable electronic uniform for soldiers, offering enhanced comfort and adaptability to varying environmental conditions, ensuring the well-being and performance of military</p>	Arduino

		personnel	
65	TEMBMA3464	<p>Agrobot: Agricultural Robot using IOT and Machine Learning (ML)</p> <p>The main objective of this project is to create an Agrobot, an agricultural robot, utilizing IOT and Machine Learning (ML) technologies to revolutionize farming practices by automating tasks, optimizing resource utilization, and improving crop management</p>	Robotics
66	TEMBMA3465	<p>Surveillance System for Real-Time High-Precision Recognition of Criminal Faces From Wild Videos</p> <p>The main objective of this project is to develop a surveillance system capable of real-time high-precision recognition of criminal faces, enhancing law enforcement efforts in identifying and tracking individuals of interest for public safety and security</p>	OpenCV
67	TEMBMA3466	<p>IOT Based Contactless Visitor Approval and Parcel Sanitization System For COVID -19</p> <p>The main objective of this project is to implement an IOT-based contactless visitor approval and parcel sanitization system for COVID-19, ensuring a safer and hygienic environment by minimizing physical contact and reducing the risk of viral transmission.</p>	IOT
68	TEMBMA3467	<p>SWAP Smart Water Protocol for the Irrigation of Urban Gardens in Smart Cities</p> <p>The main objective of the SWAP (Smart Water Protocol) project is to develop an advanced system for the efficient irrigation of urban gardens in smart cities, leveraging smart technologies and data-driven approaches to optimize water usage and promote sustainable urban agriculture practices.</p>	IOT
69	TEMBMA3468	<p>Distributed subway station safety detection system based on Raspberry Pi</p> <p>The main objective of this project is to create a distributed subway station safety detection system based on Raspberry Pi, enhancing passenger safety and security by continuously monitoring critical aspects of subway stations and promptly detecting potential safety hazards or security breaches.</p>	Raspberry Pi
70	TEMBMA3469	<p>Reading Aid and Translator with Raspberry Pi for Blind people</p>	Raspberry

		The main objective of this project is to design and implement a reading aid and translator using Raspberry Pi to assist blind individuals in reading printed text and translating it into accessible formats, thereby promoting greater independence and accessibility in daily life	Pi
71	TEMBMA3470	<p>Advanced Monitoring System for Streetlights with Theft Identification Features (AMoSSTIF) Using Raspberry Pi</p> <p>The main objective of the Advanced Monitoring System for Streetlights with Theft Identification Features (AMoSSTIF) project is to develop a comprehensive streetlight monitoring system based on Raspberry Pi, designed to efficiently manage and monitor streetlights while also incorporating theft identification features to enhance security and reduce maintenance costs.</p>	Raspberry Pi
72	TEMBMA3471	<p>Embedded System based Independent Scientist Satellite Payload</p> <p>The main objective of this project is to create an embedded system-based independent scientist satellite payload, enabling scientific research and data collection in space with a focus on autonomy, versatility, and accessibility for independent scientists and researchers.</p>	Raspberry Pi
73	TEMBMA3472	<p>IOT Enabled Innovative Accident Detection and Rescue System</p> <p>The main objective of this project is to design and implement an IOT-enabled innovative accident detection and rescue system, aimed at improving the promptness and efficiency of accident detection and response, ultimately enhancing overall safety and reducing the severity of incidents.</p>	IOT
74	TEMBMA3473	<p>Prevention of Road Accidents by Interconnecting Vehicles using LiFi and LoRaWAN Technologies</p> <p>The main objective of this project is to prevent road accidents by interconnecting vehicles through the integration of LiFi and LoRaWAN technologies, facilitating real-time communication and data exchange between vehicles to enhance road safety and reduce accidents.</p>	WSN
75	TEMBMA3474	<p>Safety Grills to Avoid Railway Platform Accident</p> <p>The main objective of the project is to install safety grills on railway platforms to prevent accidents, ensuring the safety of passengers by creating a protective barrier that reduces the risk of falling or crossing tracks inadvertently</p>	Emb. Applications

76	TEMBMA3475	<p>Hybrid Model for vehicle overload detection system using Arduino sensors</p> <p>The main objective of this project is to develop a hybrid model for a vehicle overload detection system using Arduino sensors, combining multiple sensor technologies to accurately identify and alert against overloading in vehicles, thereby enhancing road safety and compliance with weight regulations</p>	Arduino
77	TEMBMA3476	<p>GPS GSM based School Bus Boarding Deboarding and Location Notifying System</p> <p>The main objective of this project is to implement a GPS/GSM-based system for school buses that tracks and notifies parents and school authorities about the boarding, deboarding, and real-time location of students, ensuring their safety during school transportation.</p>	WSN
78	TEMBMA3477	<p>IOT - Based ATM Pin Entry by Random Word Generator Using Design Thinking Framework</p> <p>The main objective of this project is to design an IOT-based ATM pin entry system that employs a random word generator, utilizing the Design Thinking framework to enhance security and user experience during ATM transactions</p>	IOT
79	TEMBMA3478	<p>Mudslide Disaster Monitoring and Early Warning System Based on ESP32</p> <p>The main objective of this project is to create a mudslide disaster monitoring and early warning system based on ESP32, providing real-time data collection and timely alerts to help mitigate the risks and impact of mudslides in vulnerable areas.</p>	Node MCU
80	TEMBMA3479	<p>Cloud based Intelligent Accident Proof Helmet and Detect State of Intoxication</p> <p>The main objective of this project is to develop a cloud-based intelligent accident-proof helmet equipped with sensors and technology to not only enhance safety for the wearer but also detect their state of intoxication, thereby reducing the risk of accidents due to impaired judgment or coordination.</p>	Emb. Applications
81	TEMBMA3480	<p>Robotic Accident Prevention and Alert System for Visually Impaired</p>	Robotics

		The main objective of this project is to create a robotic accident prevention and alert system tailored for visually impaired individuals, providing them with real-time assistance and warnings to navigate their environment safely and independently.	
82	TEMBMA3481	<p>A Wireless Multifunctional Structural Health Monitoring System</p> <p>The main objective of this project is to establish a wireless multifunctional structural health monitoring system designed to continuously assess the condition and integrity of structures, ensuring early detection of potential issues and enhancing safety and maintenance practices.</p>	WSN
83	TEMBMA3482	<p>IOT enabled Vehicles Auto Kids Recognition System</p> <p>The main objective of this project is to develop an IOT-enabled auto-kids recognition system for vehicles, enhancing child safety by ensuring that no child is left unattended inside a vehicle through real-time monitoring and alerts</p>	IOT
84	TEMBMA3483	<p>Biometric and RFID Passive Tag based Student Identification System for Secure Attendance Management</p> <p>The main objective of this project is to implement a secure attendance management system for students using biometric and RFID passive tag technology, ensuring accurate and reliable student identification and attendance tracking in educational institutions</p>	WSN
85	TEMBMA3484	<p>Design and Analysis Performance of IOT-Based Water Quality Monitoring System using LoRa Technology</p> <p>The main objective of this project is to design and analyze the performance of an IOT-based water quality monitoring system using LoRa technology, enabling real-time data collection and assessment of water quality parameters to ensure the safety and sustainability of water resources.</p>	WSN
86	TEMBMA3485	<p>IOT Based Anti-Theft Flooring Mat system Using Raspberry PI</p> <p>The main objective of this project is to create an IOT-based anti-theft flooring mat system using Raspberry Pi, designed to detect unauthorized access or tampering and provide security alerts to prevent theft or intrusion</p>	Raspberry Pi
87	TEMBMA3486	<p>Finger Print & Pascode Based Anti-Theft Vehicle System</p>	Emb. Application

		The main objective of this project is to develop a fingerprint and passcode-based anti-theft vehicle system, enhancing vehicle security by requiring biometric and secure code authentication for ignition and access, thereby preventing unauthorized use or theft	s
88	TEMBMA3487	<p>Air Quality Monitor System Using IOT And Machine Learning</p> <p>The main objective of this project is to create an air quality monitoring system using IOT and machine learning, allowing real-time data collection and analysis to provide insights into air quality and potentially forecast pollution levels for improved public health and environmental awareness.</p>	IOT
89	TEMBMA3488	<p>Network Security Surveillance System for Jewelry Shop</p> <p>The main objective of this project is to establish a network security surveillance system specifically designed for jewelry shops, providing comprehensive security measures and real-time monitoring to safeguard valuable assets and ensure the safety of both customers and staff.</p>	Emb. Applications
90	TEMBMA3489	<p>A system of IOT Devices to prevent under-loading overloading of Railway wagons.</p> <p>The main objective of this project is to implement a system of IOT devices that prevents the under-loading and overloading of railway wagons, thereby ensuring safe and efficient cargo transportation and preventing potential accidents or damage to the railway infrastructure.</p>	IOT
91	TEMBMA3490	<p>Object Detection System using Arduino for Military Application</p> <p>The main objective of this project is to implement object detection that will enhance military application this project will efficiently calculate the distance between objects and therefore contribute in mission's success in the battlefield effectively.</p>	Embedded Application
92	TEMBMA3491	<p>Smart Transformer - An Analysis of Recent Technologies for Monitoring Transformer</p> <p>The main objective of this project is to implement a better way monitor the transformer. This project will able to monitor the different parameter of a transformer and upload them to webserver for webserver and remote monitoring.</p>	Electrical
93	TEMBMA3492	<p>Epilepsy Detection Using Embedded Machine Learning</p> <p>The objective is to create a reliable system that can analyze physiological</p>	Machine Learning

		signals indicative of epileptic seizures. The embedded nature of the system allows for continuous monitoring, with the goal of providing timely alerts or interventions to enhance patient safety and medical response in epilepsy management.	
94	TEMBMA3493	IOT Based Fish Pond Monitoring System to Enhance Its Productivity This innovative project helps to monitor different parameters in a fish pond and based update the data to webserver for remote monitoring and analysis which will help to understand the water better which leads to good productivity.	IOT
95	TEMBMA3494	Arduino UNO Based OTP Lock for Integrated Home Security System Design and implement an Arduino UNO-based OTP (One-Time Password) lock as a key component of an Integrated Home Security System. The system should provide a secure and user-friendly mechanism for access control, utilizing OTP technology to ensure each access attempt is unique	Embedded Application
96	TEMBMA3495	Implementation of Bluetooth Based Cargobot Using Controlled Arduino Robocar Utilizing Bluetooth communication, the system should allow users to wirelessly control the Robocar's movements, demonstrating an innovative and practical application of robotics in logistics.	Robotics
97	TEMBMA3496	Sensor-based espial of potholes and humps on roads with instant notification alert using IOT The main idea of this project is to create a sensor-based system for the detection of potholes and humps on roads using IOT technology. The project aims to deploy sensors capable of identifying road irregularities, with an integrated IOT system for instant notification alerts. The objective is to improve road safety and maintenance by providing real-time information to relevant authorities, enabling prompt intervention and enhancing the overall quality of road infrastructure.	IOT
98	TEMBMA3497	Integrated Environmental Monitoring and Disease Detection Using Internet of Things Due to the integration of different sensor the system able to monitor the environment effectively and based on the pollutants the system will able to detect the diseases and upload the sensor data to webserver for remote monitoring and analysis.	IOT
99	TEMBMA3498	Smart Wearable Device to Prevent Accidents Caused by Medical Emergencies The main idea behind this project is to create a system that will able to monitor the vital signs and alert the person behind the wheel while driving.	Biomedical
100	TEMBMA3499	Evaluation of Suitability of Low-Cost Gas Sensors for Monitoring Indoor and Outdoor Urban Areas This project is designed to measure the air quality in the environment by using the low cost sensor this system is suitable to better environment monitoring.	Embedded Application

101	Design and implementation of attender robot Using raspberry pi "Utilizing Raspberry Pi, we design and implement an attender robot, enhancing efficiency and reducing human intervention in tasks such as delivery, surveillance, or assistance."	Embedded Application
102	Plant Disease Detection Using Image processing and Drone Simply the camera will able take the picture and then send them to mail for further processing with mat lab	Embedded + matlab
103	RFID based smart trolley for automatic billing system "Developing an RFID-based smart trolley enables an automatic billing system, simplifying shopping experiences by seamlessly tracking items and generating bills without manual intervention."	Embedded Application
104	E-bike with security system authentication with theft alarm and vehicle detection "Crafting an E-bike model prototype integrated with security authentication, , ensuring enhanced safety and theft prevention for riders."	Embedded Application
105	Arduino based Thermoelectric Energy Generator "In this Arduino-based project, we utilize thermoelectric energy generation alongside solar panels to power LEDs, demonstrating sustainable energy utilization for lighting purposes."	Renewable energy
106	IOT based automated tomato sorting machine "Creating an IOT-based automated tomato sorting machine that distinguishes between green and red tomatoes, streamlining agricultural processes for efficient sorting and packaging."	IOT
107	SMART BAGGAGE TRACKER "Introducing a Smart Baggage Tracker leveraging GPS and IOT technologies, offering location updates and notifications, ensuring peace of mind for travelers and efficient baggage management."	Embedded Application
108	Phase angle measurement circuit or a Power Factor measurement circuit. "Designing a phase angle measurement circuit or a power factor measurement circuit using the PZEM energy monitor, enabling accurate assessment of electrical system efficiency and performance."	Electrical Hardware
109	Automatic unthorized parking detector with SMS alert "Developing an automatic unauthorized parking detector equipped with SMS alert functionality, ensuring efficient management of parking spaces and prompt notification of unauthorized vehicle presence."	Embedded Application

110	<p>Underground fault detector by using Arduino Uno</p> <p>"Implementing an underground fault detector with Arduino Uno, utilizing 9 switches to represent 3 locations across three phases, enabling precise identification and localization of faults in electrical distribution systems."</p>	Electrical Hardware
111	<p>Advancing Workplace Safety with IOT-Enabled Industrial Monitoring</p> <p>This project focuses on enhancing industrial safety through an advanced Industrial Safety System utilizing Internet of Things (IOT) technology, particularly in high-risk industries such as petroleum, chemicals, and oil.</p>	
112	<p>Battery Consumption Optimization in Electric Vehicles using Gyroscope Sensor</p> <p>In order for an electric car to function, batteries are essential. The battery's use is a significant issue. Optimized battery power usage is the main topic of this project. This is achieved by efficiently providing power while considering the various terrains the vehicle travels.</p>	
113	<p>Implementation of RemRover: A Remotely Controlled Rover Built using IOT and Web Sockets</p> <p>This project describes the development of RemRover, an IOT-based robotic rover designed for environmental monitoring and remote control. The rover is built using a Raspberry Pi microcontroller and is equipped with several sensors</p>	
114	<p>IOT-Based Automatic Bed Vacancy Detection in Hospital</p> <p>The development of an efficient bed availability tracking system is crucial, particularly in India where hospital bed shortages are a significant issue.</p>	
115	<p>IOT Based Electrical Vehicle Battery Management System with Charge Monitor and Fire Protection</p> <p>This project presents an Arduino-based Electrical Vehicle Battery Management System (EV-BMS) integrated with IOT capabilities for enhanced monitoring and safety features.</p>	
116	<p>IOT-Enhanced Hostel Inventory Management System for Seamless Resource Monitoring and Control</p> <p>The Hostel Inventory Management System (HIMS) is a sophisticated solution designed to streamline and optimize</p>	

		inventory management in hostel facilities.	
117		<p>IOT-Enhanced Transport and Monitoring of Medicine Using Sensors, MQTT, and Secure Short Message Service</p> <p>This project presents an effective implementation of IOT (Internet of Things) for monitoring the transportation of medicines and vaccines, along with temperature control facilitated through mobile applications and sensor networks.</p>	
118		<p>Raspberry Pi-Based Driver Drowsiness Detection</p> <p>The project focuses on developing an intelligent system using raspberry pi to detect drowsiness in drivers and take appropriate actions to prevent accidents.</p>	
119		<p>Sewage Water Monitoring and Filtering using Raspberry Pi</p> <p>The project outlines a comprehensive approach to sewage water monitoring and filtering through an Arduino-based system.</p>	
110		<p>Smart Water Flow and Pipeline Leakage Detection using IOT and Arduino UNO</p> <p>This project study intends to create an Internet of Things (IOT)-based leak detection system using the Arduino IDA open source software.</p>	

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

LATEST MATLAB ACADEMIC LIVE PROJECTS 2023-2024

S. No	Project Code	Title	Domain
1	TMMAIP413	<p>Combined Use of a Bilateral and Median Filter to Suppress Gaussian Noise in Images</p> <p><i>Objective: This project aims to combine the strengths of bilateral and median filtering algorithms to achieve superior noise reduction in images corrupted by Gaussian noise.</i></p>	Image Processing
2	TMMAAI256	<p>Detection of Corn Leaves Nutrient Deficiency Using Support Vector Machine (SVM)</p> <p><i>Objective: This project aims to develop a robust and accurate system for identifying nutrient deficiencies in corn plants through the utilization of machine learning techniques, specifically Support Vector Machine (SVM).</i></p>	Image Processing/Artificial Intelligence
3	TMMAAI257	<p>Logo Based Amphetamines classification</p> <p><i>Objective: The objective of the "Logo Based Amphetamines Classification" project is to develop an advanced image classification system that utilizes logo recognition techniques to accurately classify and differentiate various types of amphetamine substances based on their visual characteristics</i></p>	Image Processing/Artificial Intelligence
4	TMMAAI263	<p>Glucose Content Analysis using Image Processing and Machine Learning</p> <p><i>Objective: The project aims to create a non-invasive and automated method for glucose</i></p>	Image Processing/Artificial Intelligence

		<i>level assessment, reducing the dependency on traditional invasive blood/urine tests.</i>	
5	TMMAIP412	<p>Object Segmentation Based on the Integration of Adaptive K-means and GrabCut Algorithm</p> <p><i>Objective: we propose a method of object segmentation based on hybrid segmentation method means combine use of Adaptive k-means clustering and GrabCut Algorithm</i></p>	Image Processing
6	TMMAAI264	<p>American Sign Language Recognition Based on Machine Learning and Neural Network</p> <p><i>Objective: we propose a method of American Sign language Recognition based on different algorithms (machine learning and Deep learning) and comparison their Accuracy, precision, f1-score</i></p>	Image Processing/Artificial Intelligence
7	TMMAAI265	<p>Blood Cells Classification Using Deep Learning Technique</p> <p><i>Objective: we propose a method of Blood Cells classification Using per-processing, AlexNet Convolutional Neural Network, Classification and final Result</i></p>	Image Processing/Artificial Intelligence
8	TMMAIP414	<p>K-means and Morphological Approach on Image Segmentation for Fish Detection</p> <p><i>Objective: The primary objective of employing K-means clustering and morphological approach in the context of image segmentation for fish detection is to develop an effective and automated system for accurately identifying and isolating fish objects within underwater images</i></p>	Image processing

9	TMMAIP415	<p>Analysis of Various Image Segmentation Techniques on Retinal OCT Images</p> <p><i>Objective: The primary objective of this project is to systematically evaluate and compare different image segmentation techniques applied to Retinal Optical Coherence Tomography (OCT) images. This analysis aims to enhance our understanding of the performance and suitability of various segmentation methods for accurately delineating retinal structures and anomalies within OCT images.</i></p>	Image processing
10	TMMAAI266	<p>Diagnosis of Malaria using Machine Learning Models</p> <p><i>Objective: The primary objective of this project is to develop and deploy a robust and accurate machine learning-based system for the diagnosis of Malaria. Malaria is a life-threatening disease caused by the Plasmodium parasite, and early and accurate diagnosis is critical for effective treatment and control.</i></p>	Image Processing/Artificial Intelligence
11	TMMAAI267	<p>Betta Fish Image Identification using Feature Extraction GLCM and K-Nearest Neighbour Classification</p> <p><i>Objective: The primary objective of this project is to develop a robust and accurate image identification system for Betta fish species using advanced computer vision techniques, specifically feature extraction based on Gray-Level Co-occurrence Matrix (GLCM) and classification through the K-Nearest Neighbour (K-NN) algorithm.</i></p>	Image Processing/Artificial Intelligence

12	TMMAI268	<p>Dried Fish Classification Using Deep Learning</p> <p><i>Objective: The primary objective of this project is to develop a deep learning-based system for the automated classification of dried fish products. Specifically, the project aims to create a robust and accurate model capable of categorizing different types and qualities of dried fish based on visual attributes.</i></p>	Image Processing/Artificial Intelligence
13	TMMAIP416	<p>Road Extraction from Satellite Images Using Maximum Entropy Threshold Method</p> <p><i>Objective: The primary objective of this project is to develop an automated road extraction system that utilizes the Maximum Entropy Threshold Method (METM) for the analysis of satellite imagery. This system aims to accurately identify and extract road networks from satellite images, providing valuable geospatial data for various applications such as urban planning, transportation management, and environmental monitoring.</i></p>	Image processing
14	TMMAIP417	<p>Design and Implementation of a Cloud Particle Shape Recognition Algorithm Based on MATLAB</p> <p><i>Objective: The primary objective of this project is to develop a robust and efficient cloud particle shape recognition algorithm using MATLAB. This algorithm will analyse images or data of cloud particles and classify them based on their shapes, contributing to a deeper understanding of atmospheric processes and aiding in meteorological research.</i></p>	Image Processing/Artificial Intelligence

15	TMMAAI269	<p>Chest X-ray Imaging System for Early Detection of Tuberculosis</p> <p><i>Objective: The primary objective of the "Chest X-ray Imaging System for Early Detection of Tuberculosis" project is to develop an innovative and robust medical imaging system that leverages chest X-ray technology to facilitate the early and accurate detection of tuberculosis (TB).</i></p>	Image Processing/Artificial Intelligence
16	TMMAAI258	<p>Facial Expression Image based Emotion Detection using Convolutional Neural Network</p> <p><i>Objective: The goal is to create a model that can automatically recognize and classify human emotions from facial images into predefined categories such as happiness, sadness, anger, surprise, fear, and disgust.</i></p>	Image Processing/Artificial Intelligence
17	TMMAAI259	<p>Machine Learning Approach for Detecting Liver Tumours in CT images using the Gray Level Co-Occurrence Matrix</p> <p><i>Objective: This project aims to address critical healthcare challenges by leveraging machine learning techniques, specifically the Gray Level Co-Occurrence Matrix (GLCM), to enhance the accuracy and efficiency of liver tumour diagnosis.</i></p>	Image Processing/Artificial Intelligence
18	TMMAAI260	<p>Leaf Diseases Prediction Pest Detection and Pesticides Recommendation using Deep Learning Techniques</p> <p><i>Objective: The primary objective of this project is to develop a comprehensive and intelligent system that leverages deep learning techniques</i></p>	Image Processing/Artificial Intelligence

		<p>to address critical challenges in agriculture, specifically related to leaf diseases, pest detection, and the recommendation of suitable pesticides. The project aims to revolutionize agricultural practices by providing timely and accurate support to farmers and agricultural stakeholders</p>	
19	TMMAAI261	<p>CNN Based Study of Improvised Food Image Classification</p> <p><i>Objective:</i> This project aims to contribute to the field of computer vision and food image classification, specifically focusing on the challenging task of categorizing improvised or homemade dishes using deep learning techniques. The results of this study can have practical applications in recipe recommendation, dietary analysis, and culinary innovation.</p>	Image Processing/Artificial Intelligence
20	TMMAAI262	<p>Hydrophobicity Classification of Composite Insulators Based on Image Enhancement and Deep Learning</p> <p><i>Objective:</i> The primary objective of the project titled "Hydrophobicity Classification of Composite Insulators Based on Image Enhancement and Deep Learning" is to develop an advanced and automated system for assessing the hydrophobicity status of composite insulators used in electrical power transmission and distribution networks.</p>	Image Processing/Artificial Intelligence
21	TMMASP168	<p>ECG Signal Extraction Method Based on Singular Value Selection and Wavelet</p> <p><i>Objective:</i> The primary objective of this project, titled "ECG Signal Extraction Method Based on Singular Value Selection and Wavelet," is to develop and implement an innovative signal</p>	Signal Processing

		<i>processing technique for the accurate extraction and enhancement of Electrocardiogram (ECG) signals</i>	
22	TMMASP169	<p>A Novel Approach to Speech Signal Segmentation Based on Time-Frequency Analysis</p> <p><i>Objective: The main objective is to segment a speech signal on the basis of Time and Frequency analysis</i></p>	Signal Processing
23	TMMASP170	<p>Feature extraction and analysis of speech signal based on fractional Fourier transform</p> <p><i>Objective: To analyse and extract features of a speech signal using fractional Fourier transform</i></p>	Signal Processing
24	TMMASP171	<p>Speech Signal Denoising Algorithm and Simulation Based on Wavelet Threshold</p> <p><i>Objective: The project aims to address the critical issue of enhancing the quality of speech signals corrupted by various types of noise, such as background noise, interference, or distortions, to improve the overall intelligibility and usability of the audio data.</i></p>	Signal Processing
25	TMMASP172	<p>Noise Reduction and Speech Enhancement Using Wiener Filter</p> <p><i>Objective: The primary objective of this project is to develop and implement a noise reduction and speech enhancement system based on the Wiener filter algorithm. The project aims to enhance the quality of audio recordings in noisy environments, making them clearer and more intelligible.</i></p>	Signal Processing

26	TMMASP173	<p>Implementation of Feature Extraction of Neuro Muscular EMG Signal</p> <p><i>Objective: EMG signals are essential in various fields, including healthcare, robotics, and human-computer interaction. This project aims to contribute to the understanding and utilization of EMG data for a wide range of applications.</i></p>	Signal Processing
27	TMMAWS89	<p>Detection of Falsified Selfish Node with Optimized Trust Computation Model in Chimp —AODV Based WSN</p> <p><i>Objective: To detect the selfish node using Optimized Trust Computation Model in WSN</i></p>	Communication
28	TMMAWS90	<p>Malicious Data Injection Detection and Prediction in Wireless Sensor Network using Optimized Swarm Intelligence</p> <p><i>Objective: this project aims to contribute to the security and reliability of Wireless Sensor Networks, making them more resilient to malicious data injection attacks while maintaining efficient resource utilization through optimized swarm intelligence techniques.</i></p>	Communication
29	TMMAWS91	<p>Improved Localization by Route Positioning based Node Location Detection on the Wireless Sensor Network</p> <p><i>Objective: The project aims to address the limitations of existing localization methods and provide a more reliable solution for determining the spatial coordinates of individual nodes within the network.</i></p>	Communication
30	TMMACO91	<p>Channel Estimation in Intelligent Reflecting Surfaces for 5G and Beyond</p>	Communication

		<p>Objective: The primary objective of this project is to develop advanced channel estimation techniques tailored to the unique capabilities and challenges posed by Intelligent Reflecting Surfaces (IRS) in the context of 5G and future generations of wireless communication systems.</p>	
31	TMMAAI271	<p>An Automated Fish Species Classification System Using Improved Alexnet Model</p> <p>Objective: The objective of the "Automated Fish Species Classification System" project is to develop a robust and accurate machine learning-based system that can automatically identify and classify different species of fish from images or video footage.</p>	Image Processing/Artificial Intelligence
32	TMMAAI277	<p>Multidefect Detection Tool for Large-Scale PV Plants: Segmentation and Classification</p> <p>Objective: The overarching objective of this project is to develop a robust Multidefect Detection Tool for Large-Scale Photovoltaic (PV) Plants that combines advanced image processing techniques, machine learning algorithms, and computer vision methodologies. The primary focus will be on the segmentation and classification of defects within PV plant imagery to enhance the overall performance, reliability, and maintenance efficiency of solar energy systems.</p>	Image Processing/Artificial Intelligence
33	TMMAAI279	<p>Breast Cancer Recognizable Proof, Classification and Discovery Utilizing Neural Networks</p>	Image Processing/Artificial Intelligence

		<p>Objective: The primary objective of the "Breast Cancer Recognizable Proof, Classification, and Discovery Utilizing Neural Networks" project is to develop a robust and efficient system for the early detection, classification, and exploration of breast cancer utilizing advanced neural network techniques.</p>	
34	TMMAAI282	<p>Fake Currency Detection with Machine Learning Algorithm and Image Processing</p> <p>Objective: This research aims to distinguish genuine and counterfeit Indian paper currency using image processing techniques. A dataset of original and fake notes is analysed with Support Vector Machine (SVM) for classification, achieving high accuracy.</p>	Image Processing/Artificial Intelligence
35	TMMAAI283	<p>UNDERWATER IMAGE ENHANCEMENT USING LAPLACE DECOMPOSITION AND YOLOV2 OBJECT DETECTION</p> <p>Objective: Underwater imaging faces issues like light attenuation and color distortion. This paper introduces a technique using Laplace decomposition to enhance images, followed by YOLOv2 for object detection, improving clarity and context.</p>	Image Processing/Artificial Intelligence
36	TMMAAI284	<p>BLOOD GROUP DETECTION USING IMAGE PROCESSING & MACHINE LEARNING</p> <p>Objective: This paper introduces a non-invasive method for blood group determination. It combines image processing and machine learning to classify blood samples by analysing red blood cells mixed with specific antibodies.</p>	Image Processing/Artificial Intelligence

37	TMMAAI285	<p>ADAPTIVE FLAME BASED SEGMENTATION AND CLASSIFICATION FOR BONE CANCER DETECTION</p> <p><i>Objective: Bone cancer, a rare malignancy, necessitates timely detection for improved outcomes. AFLAME, an adaptive fuzzy clustering method, introduces a strategy for identifying bone cancer. SVM classifiers aid classification, promising enhanced diagnosis and treatment planning.</i></p>	Image Processing/Artificial Intelligence
38	TMMAAI275	<p>CARD-LESS ATM USING FINGERPRINT AND FACE RECOGNITION TECHNIQUES</p> <p><i>Objective: The study develops a card-less ATM security system using CNN-based fingerprint and face recognition. It ensures user authentication by requiring both biometric matches, reducing fraud and enhancing ATM security.</i></p>	Image Processing/Artificial Intelligence
39	TMMAAI286	<p>Kidney Stone Detection Using Image Processing and Convolutional Neural Networks</p> <p><i>Objective: This research aims to develop a kidney stone detection system using image processing, Convolutional Neural Networks (CNNs) with VGG16 architecture, and deep learning techniques, ensuring reliable automated diagnostics.</i></p>	Image Processing/Artificial Intelligence
40	TMMAIP420	<p>GLAUCOMA DETECTION USING IMAGE PROCESSING WITH MATLAB SOFTWARE</p>	Image Processing/Artificial Intelligence

		<p>Objective: This research utilizes MATLAB for enhancing glaucoma detection from fundus images, proposing a robust image processing framework involving preprocessing, feature extraction, and classification algorithms for accurate diagnosis, aiming to improve patient outcomes.</p>	
41	TMMAAI287	<p>Fingerprint Identification with fusion of Gabor features using CNN classifier</p> <p>Objective: This study integrates Gabor features with a Convolutional Neural Network (CNN) classifier to improve fingerprint identification. It employs preprocessing, PCA for dimensionality reduction, and CNN training for classifying fingerprint patterns, focusing on enhanced biometric accuracy.</p>	Image Processing/Artificial Intelligence
42	TMMAAI288	<p>Bone Cancer Identification and Separation Using K - Means and KNN Classifiers</p> <p>Objective: This study integrates K-Means and KNN classifiers to identify bone cancer stages in CT scans. It applies advanced pre-processing, feature extraction via GLCM, and multi-stage classification, ensuring robust and accurate results.</p>	Image Processing/Artificial Intelligence
43	TMMAAI289	<p>A Biometric-Finger Vein Authentication System for Security Purpose using Deep Learning Technique</p> <p>Objective: This study introduces a biometric finger vein authentication system, utilizing deep learning for security. It processes grayscale images through filtering, edge detection, segmentation, and CNN-based feature matching to confirm user identity.</p>	Image Processing/Artificial Intelligence

44	TMMAAI290	<p>DEEP LEARNING BASED CLASSIFICATION OF BONE TUMORS USING IMAGE SEGMENTATION</p> <p><i>Objective: This paper addresses automated bone cancer detection, employing deep learning algorithms on histological images for Chondrosarcoma, Ewing sarcoma, and Osteosarcoma, aiming to improve early detection and classification accuracy.</i></p>	Image Processing/Artificial Intelligence
45	TMMAAI291	<p>Detecting Brain Tumor by Using Machine Learning and Image Processing Techniques</p> <p><i>Objective: This study explores machine learning and image processing to detect brain tumors. It involves preprocessing, segmentation, morphological operations, GLCM-based feature extraction, and SVM classification to distinguish between glioma, meningioma, pituitary, and normal brain images.</i></p>	Image Processing/Artificial Intelligence
46	TMMAAI292	<p>CLASSIFICATION OF SATELLITE IMAGES WITH DEEP CONVOLUTIONAL NEURAL NETWORKS AND ITS EFFECT ON ARCHITECTURE</p> <p><i>Objective: This study investigates Deep Convolutional Neural Networks (DCNNs) for satellite image classification. It explores architectural choices, preprocessing techniques, and evaluation metrics, optimizing classification for environmental monitoring, urban planning, and disaster management.</i></p>	Image Processing/Artificial Intelligence

47	TMMAAI266	<p>DIAGNOSIS OF MALARIA USING MACHINE LEARNING MODELS</p> <p><i>Objective: Develop a deep learning model for automated malaria diagnosis using Convolutional Neural Networks (CNNs). The model aims to classify blood cell images into Infected and Uninfected categories, enhancing early detection and improving healthcare outcomes.</i></p>	Image Processing/Artificial Intelligence
48	TMMAAI293	<p>Rail Track Defects Detection Using Convolution Neural Network</p> <p><i>Objective: Using Convolutional Neural Networks (CNNs), this study aims to detect rail track defects, focusing on data preprocessing, feature extraction, and model training. After optimizing performance, the CNN identifies defects and assesses reliability in real-world settings.</i></p>	Image Processing/Artificial Intelligence
59	TMMACO114	<p>ESTIMATION OF CHANNEL USING FFT IN INTELLIGENT REFLECTING SURFACES FOR 5G AND BEYOND</p> <p><i>Objective: The objective is to evaluate an FFT-based channel estimation method for an IRS-assisted 5G OFDM communication system, focusing on beamforming, multipath delay spread, SNR variations, RE count, and training sequence sparsity.</i></p>	Communication
50	TMMACO115	<p>Beyond 5G: Reducing the Handover Rate for High Mobility Communications</p> <p><i>Objective: Developing proximity-based clusters utilizing hierarchical partitioning can enhance nomadic cell formation for handling high handover rates in dense 5G and beyond</i></p>	Communication

		networks, addressing scalability, real-time constraints, and pragmatic challenges overlooked by prior schemes.	
51	TMMACO116	<p>AN APPROACH FOR LINEAR PHASE FIR LOW PASS AND HIGH PASS FILTER DESIGN USING AHA ALGORITHM</p> <p><i>Objective: This study proposes the Artificial Hummingbird Optimization (AHA) algorithm to design optimal FIR low-pass and high-pass filters, achieving improved filter coefficients compared to PSO, BFO, GWO, and BAT in terms of transition width, passband ripples, stopband ripples, and stopband attenuation.</i></p>	Communication
52	TMMACO117	<p>SELFISH NODE DETECTION WITH QUEUE LEARNING BASED WSN</p> <p><i>Objective: Implement Queue Learning to detect selfish nodes in Wireless Sensor Networks, reducing packet loss and enhancing network performance by monitoring nodes over time to assess their behavior and trustworthiness.</i></p>	Communication
53	TMMACO93	<p>Data-Importance Aware Radio Resource Allocation: Wireless Communication Helps Machine Learning</p> <p><i>Objective: This study aims to optimize radio resource allocation in Edge AI systems by evaluating data importance for centralized and distributed edge machine learning. Effective resource allocation strategies are proposed and extensively tested to enhance machine learning performance.</i></p>	Communication
54	TMMASP193	<p>Implementation of Self-Organized Operational Neural Networks for R-Peak Detection in Holter ECGs</p>	Signal Processing

		<i>Objective: We propose 1-D Self-ONNs for improved R-peak detection, outperforming CNNs with lower computational complexity.</i>	
55	TMMACO121	Improved Localization by Route Positioning based Node Location Detection on the Wireless Sensor Network <i>Objective: Develop an advanced network route planning algorithm for Wireless Sensor Networks (WSN) using real-time dynamic data.</i>	Communication

TRENDY MATLAB ACADEMIC LIVE PROJECTS

S. No	Project Code	Title	Domain
1	TMMAIP418	<p>Reflectance-Oriented Probabilistic Equalization for Image Enhancement</p> <p><i>Objective: Develop and implement a Reflectance-Oriented Probabilistic Equalization (ROPE) algorithm for image enhancement, with a focus on improving reflectance qualities in diverse lighting conditions. The project aims to enhance image details, improve visual clarity, and ensure robust performance across a range of scenarios.</i></p>	Image Processing
2	TMMAAI273	<p>Lung Cancer Detection Based On CT-Scan Images with Detection Features Using Gray Level Co-Occurrence Matrix (GLCM) and Support Vector Machine (SVM) Methods</p> <p><i>Objective: The primary objective of this project, titled "Lung Cancer Detection Based On CT-Scan Images with Detection Features Using Gray Level Co-Occurrence Matrix (GLCM) and Support Vector Machine (SVM) Methods," is to develop a robust and accurate system for the early detection of lung cancer using medical imaging technology.</i></p>	Image Processing/Artificial Intelligence
3	TMMASP175	<p>Speech Recognition and Correction of a Stuttered Speech</p> <p><i>Objective: The primary objective of this project is to develop an advanced Speech Recognition and Correction system specifically designed to address and mitigate the challenges associated with stuttered speech.</i></p>	Signal Processing
4	TMMASP176	<p>Removal Of Blink from EEG By Empirical Mode Decomposition (EMD)</p> <p><i>Objective: The primary objective of the "Removal of Blink from EEG by Empirical Mode Decomposition (EMD)" project is to develop an advanced signal processing technique utilizing Empirical Mode Decomposition (EMD) to effectively eliminate blink artifacts from Electroencephalogram (EEG) recordings.</i></p>	Signal Processing
5	TMMAIP435	<p>DESIGN AND IMPLEMENTING BRAIN TUMOR DETECTION USING MACHINE LEARNING APPROACH</p> <p><i>Objective: The study aims to develop a reliable Brain Tumor Detection system using Machine Learning with MRI data. It includes pre-processing, segmentation, feature extraction, and SVM for classification. Performance metrics evaluate model accuracy.</i></p>	Image Processing/Artificial Intelligence

6	TMMAIP435	<p>DIABETIC RETINOPATHY STAGE CLASSIFICATION USING CONVOLUTIONAL NEURAL NETWORKS</p> <p><i>Objective: The study aims to classify Diabetic Retinopathy (DR) stages accurately, using Convolutional Neural Networks (CNNs). Inception Net V3 excelled, demonstrating deep learning's potential in biomedical image analysis for DR assessment.</i></p>	Image Processing/Artificial Intelligence
7	TMMAIP437	<p>Contrast and Colour Improvement based Haze Removal of Underwater Images using Fusion Technique</p> <p><i>Objective: Our proposed underwater image enhancement technique employs fusion, contrast stretching, and Auto White Balance to mitigate light scattering and absorption effects, improving color, contrast, and object visibility in degraded underwater images.</i></p>	Image Processing/Artificial Intelligence
8	TMMAAI311	<p>MICROORGANISM IMAGE RECOGNITION BASED ON DEEP LEARNING APPLICATIONS</p> <p><i>Objective: This study presents a deep learning-based system for microorganism image recognition using the LeNet architecture. By leveraging convolutional neural networks, the model achieves high accuracy in identifying various microorganisms, demonstrating significant improvements over conventional methods.</i></p>	Image Processing/Artificial Intelligence
9	TMMAIP425	<p>ENHANCED EDGE DETECTION USING PSO ALGORITHM FOR COMPUTER VISION</p> <p><i>Objective: An innovative edge detection method uses Particle Swarm Optimization (PSO), optimizing particle positions to capture edge information effectively. This adaptive approach, outperforming traditional techniques, shows high accuracy and robustness in challenging conditions.</i></p>	Image Processing/Artificial Intelligence
10	TMMAIP423	<p>Lung Nodule Segmentation Using Adaptive Thresholding and Watershed Transform</p> <p><i>Objective: This study introduces a method for lung nodule segmentation using adaptive thresholding and watershed transform techniques. Pre-processing includes histogram equalization and noise filtering. Segmentation utilizes edge masks, morphological operations, and marker-controlled watershed. Lesion diameter is measured to identify abnormal nodules. The technique's accuracy is validated, showing success in detecting and characterizing lung nodules.</i></p>	Image Processing/Artificial Intelligence

11	TMMAIP422	<p>BONE EXTRACTION IN X-RAY IMAGES BY ANALYSIS OF LINE FLUCTUATIONS</p> <p><i>Objective: A new bone segmentation method uses noise reduction and edge detection, analysing intensity fluctuations for more accurate results. It outperforms existing techniques, benefiting medical imaging.</i></p>	Image Processing/Artificial Intelligence
12	TMMACO96	<p>GWO-LPWSN Grey Wolf Optimization Algorithm for Node</p> <p><i>Objective: Develop an improved energy-efficient clustering protocol (IEECP) for wireless sensor networks (WSNs) in the Internet of Things (IoT) to increase network lifespan and optimize sensor node energy use. This research incorporates a new grey wolf optimization (GWO) algorithm to enhance node localization accuracy in WSNs.</i></p>	Communication
13	TMMACO113	<p>OFDM Based RADAR-Communication System Development</p> <p><i>Objective: Investigate an OFDM-based RADCOM system to enhance vehicular communications and radar detection. Analyze system performance under dynamic conditions for communication (BER) and radar (target detection).</i></p>	Communication
14	TMMACO95	<p>AN IMPROVED METHOD OF PARTICLE SWARM OPTIMIZATION FOR PATH PLANNING OF MOBILE ROBOT</p> <p><i>Objective: Improved PSO enhances mobile robot path planning, addressing slow convergence with refinements like cubic spline interpolation, uniform distribution, and exponential attenuation. IPSO achieves shorter paths and reduced iteration time.</i></p>	Communication
15	TMMACO97	<p>ENERGY EFFICIENT CLUSTERING USING SMO AND ROUTING WITH FIREFLY ALGORITHM IN WIRELESS SENSOR NETWORKS</p> <p><i>Objective: Optimizing energy efficiency is crucial to extending wireless sensor networks' stability. Clustering-based methods, using Spider Monkey Optimization, can improve cluster-head selection and reduce energy usage.</i></p>	Communication
16	TMMACO112	<p>A Robust Speaker Identification System for Natural</p> <p><i>Objective: Analyze audio signals to extract features, compare classifiers, assess accuracy, and visualize results for normal and whispered speech.</i></p>	Communication

17	TMMACO109	<p>Covert speech communication through audio steganography using DWT and SVD</p> <p><i>Objective: This study presents a semi-blind audio steganography algorithm using discrete wavelet transform (DWT) and singular value decomposition (SVD) to covertly embed speech into cover audio, demonstrating robust imperceptibility and resistance to various attacks.</i></p>	Communication
18	TMMACO21 & TMPGCO17	<p>ENERGY EFFICIENCY OPTIMIZATION FOR MIMO VISIBLE LIGHT COMMUNICATION SYSTEMS</p> <p><i>Objective: Maximize energy efficiency in MIMO VLC systems while meeting power, BER, and data rate constraints.</i></p>	Communication
19	TMMACO118	<p>An Improved Data Procurement Approaches in Wireless Sensor Networks</p> <p><i>Objective: This study improves Wireless Sensor Networks by optimizing data acquisition through effective cluster formation and CHIRON protocol.</i></p>	Communication
20	TMMACO119	<p>SCHEDULING PROBLEMS IN WIRELESS SENSOR NETWORKS AND INTERNET OF THINGS: A COMPARATIVE OVERVIEW</p> <p><i>Objective: Minimizing communication delay in low power networks is crucial for reducing energy consumption and enhancing lifespan.</i></p>	Communication
21	TMMACO120	<p>IMPROVED UNDERWATER WIRELESS COMMUNICATION SYSTEM USING OFDM TECHNIQUE</p> <p><i>Objective: The paper enhances underwater wireless communication using OFDM to reduce BER and improve SNR with simulations.</i></p>	Communication

APPLICATION / STANDARD MATLAB ACADEMIC LIVE PROJECTS

S. No	Project Code	Title	Domain
1	TMMAIP418	<p>INTERPRETATION OF SIGN LANGUAGE RECOGNITION USING DEEP LEARNING TECHNIQUES</p> <p><i>Objective: This study examines deep learning for sign language interpretation, focusing on convolutional neural networks (CNNs). The research explores dataset preparation, model design, and training methods, achieving improved accuracy in sign language recognition.</i></p>	Image Processing
2	TMMAAI274	<p>Early pest detection from crops using image processing and computational intelligence.</p> <p><i>Objective: This study develops an early pest detection system for crops using image processing and computational intelligence. The method involves pre-processing, segmentation, feature extraction, and SVM classification to accurately identify pests, enhancing agricultural pest management.</i></p>	Image Processing/Artificial Intelligence
3	TMMAAI294	<p>DEEP LEARNING-BASED AUTOMATED DETECTION OF COPYING BEHAVIOR IN EXAMINATIONS</p> <p><i>Objective: This research presents a novel Convolutional Neural Network (CNN) approach for detecting student copying in exams, aiding educational institutions in preserving academic integrity and maintaining fair examination environments.</i></p>	Image Processing/Artificial Intelligence
4	TMMAAI295	<p>Hand Gesture Recognition for Sign Language Using CNN</p> <p><i>Objective: Our objective is to develop a CNN-based system for sign language recognition, enhancing accessibility. We train the model on diverse sign language gestures, using data augmentation techniques for improved performance.</i></p>	Image Processing/Artificial Intelligence
5	TMMAAI296	<p>REAL-TIME FACIAL RECOGNITION FOR ANTI-THEFT WITH ML SVM AND HOG FEATURES</p> <p><i>Objective: This study introduces a real-time anti-theft system using facial recognition with Support Vector Machines and Histogram of Oriented Gradients for improved security in diverse environments.</i></p>	Image Processing/Artificial Intelligence

6	TMMAAI297	<p>ACCIDENT DETECTION USING DEEP LEARNING</p> <p><i>Objective:</i> Deep Learning-based accident detection uses Convolutional Neural Networks to analyze vehicle and roadside camera data. This approach accurately identifies accidents, assesses severity, and aids emergency response prioritization, enhancing road safety.</p>	Image Processing/Artificial Intelligence
7	TMMAAI298	<p>Segmentation and Classification of Melanoma Skin Cancer using Deep Learning Techniques</p> <p><i>Objective:</i> This study examines deep learning-based melanoma diagnosis, emphasizing CNNs for segmenting and classifying skin cancer. Pre-processing uses image resizing, grayscale, noise addition, median filtering, binarization, and morphological operations. Classification assesses benign or malignant melanomas, measuring accuracy.</p>	Image Processing/Artificial Intelligence
8	TMMAAI276	<p>Classification of Human white blood cell images</p> <p><i>Objective:</i> This study applies the "SqueezeNet" convolutional neural network to improve the classification of white blood cells. By fine-tuning hyperparameters, it aims to enhance diagnostic accuracy and efficiency, overcoming traditional test limitations.</p>	Image Processing/Artificial Intelligence
9	TMMAAI299	<p>Real time image-based attendance system</p> <p><i>Objective:</i> A real-time image-based attendance system for educational settings utilizes pre-processed images from Google, employing Convolutional Neural Networks for accurate student identification and storing attendance details in Excel for efficient tracking.</p>	Image Processing/Artificial Intelligence
10	TMMAAI278	<p>SMART TRAFFIC SAFETY SYSTEM WITH AUTOMATED HELMET DETECTION AND DYNAMIC SIGNAL CONTROL</p> <p><i>Objective:</i> This Smart Traffic Safety System integrates YOLOv2-based helmet detection and Dynamic Signal Control. It identifies motorcyclists without helmets, adjusting traffic signals to improve safety and traffic flow. This technology enhances road safety and management.</p>	Image Processing/Artificial Intelligence
11	TMMAAI300	<p>DIABETIC RETINOPATHY USING CNN RESNET-101</p> <p><i>Objective:</i> This study investigates the use of ResNet-101, a Convolutional Neural Network architecture, for automated detection and classification of Diabetic Retinopathy (DR) in retinal fundus images. The model's performance is measured using sensitivity, specificity, and AUC-ROC, demonstrating potential for accurate DR diagnosis.</p>	Image Processing/Artificial Intelligence

12	TMMAAI301	<p>MULTIPLE TYPES OF CANCER CLASSIFICATION USING CT/MRI IMAGES BASED ON LEARNING WITHOUT FORGETTING POWERED MOBILENETV2 MODELS</p> <p><i>Objective: This study introduces a new technique for classifying various cancers using CT/MRI images. By integrating MobileNetV2 models, the research addresses sequential learning without forgetting, achieving high accuracy and computational efficiency.</i></p>	Image Processing/Artificial Intelligence
13	TMMAAI302	<p>Oil spill identification based on DAM UNet model using MATLAB</p> <p><i>Objective: The research aims to identify oil spills using a DAM UNet model in MATLAB. It involves pre-processing with radiometric correction, terrain correction, and Lee speckle filtering, followed by semantic segmentation. Denoising with a Wiener2 filter and PSNR calculation complete the workflow.</i></p>	Image Processing/Artificial Intelligence
14	TMMAAI303	<p>Agrobot agricultural robot using iot and machine learning</p> <p><i>Objective: The research aims to identify oil spills using a DAM UNet model in MATLAB. It involves pre-processing with radiometric correction, terrain correction, and Lee speckle filtering, followed by semantic segmentation. Denoising with a Wiener2 filter and PSNR calculation complete the workflow.</i></p>	Image Processing/Artificial Intelligence
15	TMMAAI304	<p>SMART SAFETY: AI SEAT BELT MONITORING & DROWSINESS DETECTION</p> <p><i>Objective: This research explores a Smart Safety system using AI for enhanced vehicle safety. It integrates AI Seat Belt Monitoring, ensuring proper use, and Drowsiness Detection, alerting when drivers are fatigued.</i></p>	Image Processing/Artificial Intelligence
16	TMMAAI305	<p>Diabetic Retinopathy using CNN - Alex net</p> <p><i>Objective: This study examines the effectiveness of using the AlexNet Convolutional Neural Network architecture to automate the detection of diabetic retinopathy from retinal images, potentially improving early diagnosis and intervention.</i></p>	Image Processing/Artificial Intelligence
18	TMMAIP432	<p>ANTI-SPOOFING IMPROVES SECURITY AND IDENTIFICATION WITH THE HELP OF FACE RECOGNITION</p> <p><i>Objective: This paper examines the use of anti-spoofing techniques to enhance face recognition security. It analyses methods like liveness detection and texture analysis, exploring their impact on system robustness and authentication accuracy.</i></p>	Image Processing/Artificial Intelligence

19	TMMAAI306	<p>SKIN DISEASE DETECTION USING CNN (CONVOLUTIONAL NEURAL NETWORK)</p> <p><i>Objective: Skin diseases present significant global health challenges. This study employs Convolutional Neural Networks (CNNs) for automated skin disease detection, utilizing diverse lesion images to train and evaluate the model's performance.</i></p>	Image Processing/Artificial Intelligence
20	TMMAAI307	<p>Deep Learning-Based Classification of Blood Groups, Cell Counts, Ages, and Genders</p> <p><i>Objective: This study uses deep learning to classify biomedical data, including blood groups, cell counts, ages, and genders. It employs a Convolutional Neural Network (CNN) with pre-processing techniques like image resizing and noise removal.</i></p>	Image Processing/Artificial Intelligence
21	TMMAAI308	<p>Breast Cancer Classification using Capsule Network with Pre-processed Histology Images</p> <p><i>Objective: To classify breast cancer tissue samples into Benign, In situ, Invasive, and Normal, this study uses Capsule Networks with pre-processed histology images, aiming to improve diagnostic accuracy and interpretability.</i></p>	Image Processing/Artificial Intelligence
22	TMMAAI281	<p>Gas Leakage System Using Image Processing and Deep Learning</p> <p><i>Objective: The Gas Leakage System utilizes image processing and deep learning for detecting and classifying gas leaks. It employs a Convolutional Neural Network (CNN) for leak detection, with segmentation for severity assessment, enhancing system accuracy and safety.</i></p>	Image Processing/Artificial Intelligence
23	TMMAAI309	<p>DESIGN AND DEVELOPMENT OF AGRI BOT FOR SEEDING, PLOUGHING AND WATERING PURPOSE</p> <p><i>Objective: The study uses Convolutional Neural Network (CNN) to classify leaf diseases and suggests fertilizers based on the results. It involves image preprocessing, disease identification, classification, and tailored fertilizer recommendations, aiming to improve agricultural practices.</i></p>	Image Processing/Artificial Intelligence
24	TMMAAI310	<p>Enhancing Biometric Authentication with Convolutional Neural Networks for Finger Vein and Palm Recognition</p> <p><i>Objective: This study investigates biometric authentication by utilizing Convolutional Neural Networks (CNNs) for palm and vein recognition. It employs datasets of palm and vein images, pre-processes them, and applies CNN classification to improve authentication accuracy.</i></p>	Image Processing/Artificial Intelligence

25	TMMAIP433	<p>PROTECTING WATER BODIES AND FORESTS OF TIRUPATHI (ENVIRO DRONE)</p> <p><i>Objective:</i> This study explores MATLAB's image subtraction to assess environmental integrity in water bodies and forests using EnviroDrone. It compares satellite images with ground truth data to detect ecosystem changes, aiming to guide conservation efforts.</p>	Image Processing/Artificial Intelligence
26	TMMAAI270	<p>CLASS ATTENDANCE TRACKING SYSTEM BASED-ON PALM VEIN INFORMATION USING CNN</p> <p><i>Objective:</i> Palm vein recognition and Convolutional Neural Networks (CNNs) are used for attendance tracking in educational settings. The system uses near-infrared imaging to capture unique vascular patterns, which are then processed with CNNs to identify individuals accurately, streamlining attendance management.</p>	Image Processing/Artificial Intelligence
27	TMMAAI272	<p>Image Enhancement and Face Identification in Surveillance Videos with Deep Learning</p> <p><i>Objective:</i> The paper introduces a two-step method for enhancing surveillance video frames and identifying faces. First, Convolutional Neural Networks (CNNs) improve image quality by reducing noise and enhancing contrast. Then, a CNN-based model accurately detects and identifies faces by matching them with a trained dataset.</p>	Image Processing/Artificial Intelligence
28	TMMACO94	<p>MODIFIED LEACH PROTOCOL WITH GWO OPTIMIZATION IN WSN (block diagram pending)</p> <p><i>Objective:</i> LEACH-based WSN energy efficiency is enhanced with GWO optimisation, selecting optimal cluster heads by minimising intra-cluster distance, energy use, and maximising nodes under control, thereby extending network longevity.</p>	Communication
29	TMMACO108	<p>Aerial Computing</p> <p><i>Objective:</i> Project explores aerial computing using scale-free distribution to generate target points in 1000x1000m subareas, employing density-based clustering and varying routing strategies.</p>	Communication
30	TMMAWS92	<p>ENHANCEMENT OF LEACH PROTOCOL WITH MULTIHOP PROTOCOL WITH NON-UNIFORM SIZED CLUSTERS AND DETECTION OF FALSE NODES IN WSN</p> <p><i>Objective:</i> Develop a wireless sensor network with multi-hop routing for efficient energy consumption and extended lifespan. Use a cost function based on residual energy and proximity to detect false nodes.</p>	Communication

31	TMMACO98	<p>Comparison of Wide Band Sensing and Narrow Band Sensing in Cognitive Radio Networks</p> <p><i>Objective:</i> Propose a wideband spectrum sensing model using sub-Nyquist sampling to reduce sample rates. Employ a subspace estimator to distinguish occupied and unoccupied spectrum channels without requiring signal attribute knowledge.</p>	Communication
32	TMMAWS93	<p>WIRELESS END-TO-END IMAGE TRANSMISSION SYSTEM USING SEMANTIC COMMUNICATIONS</p> <p><i>Objective:</i> This study explores semantic communication for 6G networks, leveraging AI to efficiently transmit semantically segmented data. A DCGAN decoder generates images, enabling bandwidth savings over traditional communication.</p>	Communication
33	TMMACO99	<p>DESIGN AND DEVELOPMENT OF ENERGY EFFICIENT TELE COMMAND SUBSYSTEM USING SOFTWARE DEFINED RADIO</p> <p><i>Objective:</i> The objective of this project is to design an energy-efficient telecommand subsystem using software-defined radio. This involves implementing Spectral Covariance Method with Different Window Technique to improve energy optimization and maintain performance in varying SNR conditions. Verification will be conducted through Signal to Noise Ratio (SNR) and Bit-Error Rate (BER).</p>	Communication
34	TMMASP177	<p>DENOISE SPEECH USING DEEP LEARNING TECHNIQUES</p> <p><i>Objective:</i> Develop a CNN-based system to denoise speech signals, improving audio clarity and communication, aiding voice assistants, telecommunication, and assistive devices, achieving 92% accuracy in removing noise.</p>	Signal Processing
35	TMMACO100	<p>A TRUSTED LIGHTWEIGHT COMMUNICATION STRATEGY AND A LOCATION AND VELOCITY PREDICTION-ASSISTED FOR FANETS</p> <p><i>Objective:</i> Develop a secure and efficient clustering algorithm for Flying Ad hoc Network (FANET), optimizing end-to-end delay, energy consumption, and dishonesty detection in content-centric communication environments with unmanned aerial vehicles (UAVs).</p>	Communication
36	TMMASP178	<p>Sound Localization and Separation of Different Sounds from an Audio Clip</p> <p><i>Objective:</i> Analyze sound clips with varying distances for localization using time and intensity differences, focusing on left/right directions. Apply this to separate distinct sounds based on frequencies, pitch, and amplitude.</p>	Signal Processing

37	TMMASP179	<p>CLASSIFICATION OF APNEA USING BREATH RATE ESTIMATIONS FROM ECG AND PPG SIGNALS</p> <p><i>Objective: A novel framework for estimating Breathing Rate (BR) from ECG and PPG signals uses Empirical Mode Decomposition, Discrete Wavelet Transform, and an Extended Kalman Filter to ensure accuracy and robustness, even in high-noise environments.</i></p>	Signal Processing
38	TMMAIP162	<p>Denoising of ECG signals based on noise reduction algorithms in EMD and wavelet domains</p> <p><i>Objective: This paper introduces a new ECG denoising method that combines empirical mode decomposition (EMD) and discrete wavelet transform (DWT), improving signal clarity while preserving key features.</i></p>	Signal Processing
39	TMMASP192	<p>Covert speech communication through audio</p> <p><i>Objective: Implement audio steganography using Discrete Wavelet Transform (DWT) and Singular Value Decomposition (SVD) for embedding and extraction with audio files.</i></p>	Signal Processing
40	TMMACO102	<p>IMPLEMENTATION OF INTERFERENCE MINIMIZATION ALGORITHM FOR 8X8 MU-MIMO SYSTEMS DOWNLINK WITH A FIXED-COMPLEXITY SPHERE DECODER</p> <p><i>Objective: Propose a fixed-complexity sphere decoder and interference mitigation method for downlink MU-MIMO systems, achieving near-optimal performance and significant improvement in inter-user interference reduction.</i></p>	Communication
41	TMMACO97	<p>ENERGY EFFICIENT CLUSTERING USING SMO AND ROUTING WITH FIREFLY ALGORITHM IN WIRELESS SENSOR NETWORKS</p> <p><i>Objective: The goal is to improve energy efficiency in wireless sensor networks through a novel cluster-head selection technique. It uses sampling-based spider monkey optimisation (SMO) to address limitations in current methods.</i></p>	Communication
42	TMMASP180	<p>AI- BASED HEART STROKE PREDICTION AND CLASSIFICATION USING ECG AND PPG BIO-SIGNALS</p> <p><i>Objective: This project aims to predict heart strokes using artificial intelligence, primarily utilizing artificial neural networks (ANN) trained on public databases to achieve over 92% accuracy, followed by classification with KNN.</i></p>	Signal Processing
43	TMMASP181	<p>ECG Signal Extraction Method Based on EMD Decomposition</p> <p><i>Objective: An ECG signal extraction technique combining wavelet and singular value decomposition aims to reduce noise. Singular values guide reconstruction, and wavelet thresholding denoises to achieve a cleaner signal.</i></p>	Signal Processing

44	TMMASP182	<p>FEATURE EXTRACTION AND ANALYSIS OF SPEECH SIGNAL BASED ON EMPIRICAL MODE DECOMPOSITION</p> <p><i>Objective: This study focuses on improving speech signal processing by using Empirical Mode Decomposition (EMD) to extract reliable features from dynamic, noisy speech signals for better speech recognition accuracy.</i></p>	Signal Processing
45	TMMACO103	<p>MALICIOUS DATA INJECTION DETECTION AND PREDICTION IN WIRELESS SENSOR NETWORK USING IMPROVED SWARM INTELLIGENCE</p> <p><i>Objective: To enhance security in wireless sensor networks (WSNs), we developed an improved swarm intelligence algorithm to detect and eliminate malicious data. Our tests demonstrate its effectiveness in safeguarding WSNs.</i></p>	Communication
46	TMMASP183	<p>ENHANCEMENT AND NOISE REMOVING FROM SPEECH USING EMPIRICAL MODE DECOMPOSITION</p> <p><i>Objective: The objective is to reduce noise in speech using Empirical Mode Decomposition (EMD). Noisy speech with varying signal-to-noise ratios (SNR) undergoes EMD, resulting in lower noise and improved Mean Square Error (MSE).</i></p>	Signal Processing
47	TMMACO104	<p>MATRIX DECOMPOSITION FOR MIMO DETECTION</p> <p><i>Objective: This study investigates matrix decomposition for Massive MIMO systems, comparing computational complexities of QR, Cholesky, and UN algorithms against modern large MIMO detection techniques to guide VLSI and system design choices.</i></p>	Communication
48	TMMASP184	<p>Implementation of Feature Extraction of Neuro Muscular EMG Signal</p> <p><i>Objective: Develop and implement a denoising technique for EMG signals to enhance data quality, enabling accurate feature extraction and classification for improved diagnosis of neuromuscular diseases using KNN classifier.</i></p>	Signal Processing

49	TMMACO105	<p>CLUSTERING OF NODES USING SMO AND SELFISH NODE DETECTION WITH OPTIMIZED TRUST COMPUTATION MODEL AND ROUTING WITH CHIMP - AODV BASED WSN</p> <p><i>Objective: In a WSN, optimal cluster formation is crucial for balanced energy consumption. Using SMO-based clustering and Chimp AODV routing, we aim to reduce energy imbalance during packet transmission. A trust computation model identifies and isolates selfish nodes, improving network performance and reliability.</i></p>	Communication
50	TMMACO106	<p>Improvement of LEACH Protocol for WSNs in Terms of Energy Efficient and Network Lifetime using IEECP Protocol</p> <p><i>Objective: The objective of this paper is to propose an enhanced energy-efficient clustering protocol (IEECP) for wireless sensor networks (WSNs) in the Internet of Things (IoT). This protocol aims to extend network lifespan by reducing energy consumption through optimized cluster formation and rotation-based cluster head selection.</i></p>	Communication
51	TMMASP185	<p>Noise Cancellation in Speech Signal Using Nonlinear Adaptive Filters</p> <p><i>Objective: Develop and compare nonlinear adaptive filters—Signed Regressor LMS, Signed LMS, and Signed Error LMS—to remove noise from speech signals. Analyze and identify the most effective technique for optimal denoising.</i></p>	Signal Processing
52	TMMACO107	<p>A Study of Non-Binary Low-Density Parity-Check Codes and Its Applications</p> <p><i>Objective: Investigate non-binary LDPC codes, explaining Reed-Solomon-based encoding and fast Fourier transform-based decoding. Discuss the superior performance of non-binary LDPC over binary codes and explore practical applications.</i></p>	Communication
53	TMMASP187	<p>LSTM - Aided Speech Enhancement with Wiener Filter Adaptation with Learned Loss Function</p> <p><i>Objective: This research focuses on improving speech signal quality using a deep learning-based model. It employs Non-negative Matrix Factorization and Long Short-Term Memory to enhance voice signals, optimizing noise reduction through a learned Wiener filter.</i></p>	Signal Processing

54	TMMASP188	<p>AI BASED PEST DETECTION AND ALERT SYSTEM FOR FARMERS USING IOT</p> <p><i>Objective: Develop an AI-based system to detect and classify agricultural pests using acoustic and infrared sensors, utilizing neural networks for real-time monitoring, and sending alerts to farmers via IoT and Wi-Fi.</i></p>	Signal Processing
55	TMMASP189	<p>MODULATION AND DEMODULATION OF UNDERWATER RF OFDM SIGNAL IN SHALLOW WATERS</p> <p><i>Objective: Develop an underwater OFDM-based communication system using RF signals. Address signal loss challenges at lower depths, optimizing for shallow waters. Implement modulation and demodulation techniques tailored for underwater RF.</i></p>	Signal Processing
56	TMMASP190	<p>DEVELOPMENT OF INTERACTIVE RF (RADIO FREQUENCY) CANCER DATABASE USING GUI IN MATLAB</p> <p><i>Objective: Develop an interactive Matlab GUI cancer database using RF data sourced from 21 cancer hospitals worldwide, addressing compatibility issues and meeting the demand for user-friendly cancer databases.</i></p>	Signal Processing
57	TMMASP191	<p>DESIGN OF UNDERWATER COMMUNICATION NOISE ANALYSIS</p> <p><i>Objective: The objective is to simulate and study underwater audio communication using MATLAB. The project models underwater noise and employs FIR filters to control and analyze signal quality, utilizing QPSK modulation and demodulation techniques for transmitter and receiver design.</i></p>	Signal Processing
58	TMMACO92	<p>SECURITY AND FEASIBILITY OF POWER LINE COMMUNICATIONS SYSTEM</p> <p><i>Objective: The paper explores Power Line Communication (PLC) as a broadband alternative to traditional wiring, highlighting its cost-effectiveness and discussing its security aspects, authentication, and encryption processes.</i></p>	Communication

59	TMMASP174	<p>AI- BASED HEART STROKE PREDICTION USING ECG AND PPG BIO-SIGNALS</p> <p><i>Objective: This project uses Artificial Neural Networks (ANN) to predict heart attacks, utilizing training and validation from publicly available heart attack databases, aiming for over 92% accuracy.</i></p>	Signal Processing
60	TMMAAI312	<p>Scalp Eye: A Machine Learning-Based Scalp Hair Inspection and Diagnosis System for Scalp Health</p> <p><i>Objective: This paper presents a MATLAB-based automated scalp hair inspection and classification system using image processing and machine learning.</i></p>	Image Processing/Artificial Intelligence
61	TMMAAI313	<p>Sign language Recognition Using Deep Learning Algorithm</p> <p><i>Objective: Develop a real-time sign language recognition system using deep learning and a webcam for enhanced communication.</i></p>	Image Processing/Artificial Intelligence
62	TMMACO123	<p>DETECTION OF SELFISH NODES WITH Q LEARNING AND IMPROVING ROUTING USING ACO BASED WSN</p> <p><i>Objective: Q Learning detects selfish nodes in WSNs, improving trust and performance by using Ant Colony Optimization.</i></p>	Communication

S. No	Title ID	Title Name	Journal type	Domain
1	TVMATO1154	<p>DESIGN OF 16 BIT RISC PROCESSOR</p> <p><i>Objective: In this research, a 16-bit RISC processor with suggested behavioral design and functional properties is put forth.</i></p>	Concept	Airthematic Core
2	TVMAFE581	<p>Integration of SPI with AXI Protocol</p> <p><i>Objective: The main objective of this project is to integrate the SPI protocol using AXI</i></p>	Concept	Communication
3	TVMAFE582	<p>LOW POWER DESIGN OF SPI AND I2C PROTOCOL IN VERILOG HDL</p> <p><i>Objective: The purpose of this paper is to provide a full description of a high speed SPI Master/Slave implementation with clock gating technology</i></p>	Concept	Communication
4	TVMABE228	<p>An Area-Efficient High-Resolution Segmented $\Sigma - \Delta$-DAC for Built-In Self-Test Applications</p> <p><i>Objective: In this article, a segmented DAC architecture is proposed.</i></p>	Transaction	Transistor Logic
5	TVMABE229	<p>Design and performance analysis of 4-bit Nano-Processor design for low area, low power and minimum delay using 32nm CMOS technology.</p> <p><i>Objective: The major concentration is on the</i></p>	Transaction	Nano Technologies

		<i>proposed 4-bit Nano processor using CMOS 32nm technology by using the Cadence Virtuoso software tool.</i>		
6	TVMAFE583	Integration of I2C with AXI Protocol <i>Objective: The main objective of this project is to integrate the I2C protocol using AXI</i>	Concept	Communication
7	TVMABE238	Design and Implementation of 4-Bit ALU for Low-Power using Adiabatic Logic based on CMOS <i>Objective: In this paper, a novel low-power adiabatic logic based on CMOS devices has been proposed.</i>	Journal	Core Memories
8	TVMABE233	Power efficient synchronous counter design <i>Objective: In this brief, we propose a power efficient design of synchronous counters that reduces the power consumption due to clock distribution for different flip-flops and offers high reliability</i>	Journal	Low Power VLSI
9	TVMABE234	CMOS-Memristor Inverter Circuit Design and Analysis Using Cadence Virtuoso <i>Objective: This paper investigates the benefits of combining CMOS logic along with memristors</i>	Conference	Core Memories
10	TVMABE238	A 0.6-V Low-Power Variable-Gain LNA in 0.18-μm CMOS Technology <i>Objective: By using the forward body biasing, input feedback capacitor, current-reuse and multiple-gate</i>	Transactions	Low power VLSI

		<i>topologies, the LNA can achieve low power consumption, small chip area, and high linearity.</i>		
11	TVPGBE162	<p>A Wide-Range Static Current-Free Current Mirror-Based LS With Logic Error Detection for Near-Threshold Operation</p> <p><i>Objective: The objective is to propose a current mirror-based level shifter (LS) with a logic error detection (CMLS-LED), which is capable of converting a near-threshold signal to a super-threshold signal.</i></p>	Journal	Low Power VLSI
12	TVMAFE598	<p>Compact Bit-Parallel Systolic Multiplier Over GF(2^m)</p> <p><i>Objective: This article presents a compact and efficient bit-parallel systolic array structure for multiplication over the extended binary field, GF(2^m).</i></p>	Journal	DSP Core
13	TVPGBE163	<p>Design of High-Performance GDI Logic based 8-Tap FIR Filter at 22nm CMOS Technology using Array Multiplier</p> <p><i>Objective: This paper investigates the modelling and implementation of a Finite Impulse-Response (FIR) block developed utilizing GDI-based circuits as well as basic blocks.</i></p>	Journal	Transistor Logic
14	TVMATO1156	<p>Wideband Variable-Gain Amplifiers Based on a Pseudo-Current-Steering Gain-Tuning Technique</p> <p><i>Objective: This paper reports two variable-gain amplifiers</i></p>	Access	Cadence EDA

		(VGAs) featuring a new pseudo-current-steering gain-tuning technique.		
15	TVMAFE599	<p>VLSI Implementation of decoding algorithms using EG-LDPC Codes</p> <p><i>Objective: The main objective in this paper is to creating of three different decoder algorithms for LDPC Codes.</i></p>	Conference	Testing
16	TVPGFE334	<p>High-performance multiply-accumulate unit by integrating binary carry select adder and counter-based modular wallace tree multiplier for embedding system</p> <p><i>Objective: The main objective of this project is to design MAC unit in order to achieve lower power consumption on utilizing the high-speed binary carry select adder.</i></p>	Journal	Airthematic Core
17	TVMAFE600	<p>Low Complexity Implementation of OTFS Transmitter using Fully Parallel and Pipelined Hardware Architecture</p> <p>Objective: The main aim of this project is to design the OTFS for higher performance.</p>	Journal	DSP Core
18	TVMATO1157	<p>FPGA-Based Multi-Level Approximate Multipliers for High-Performance Error-Resilient Applications</p> <p><i>Objective: This paper presents approximate multipliers which are efficiently deployed on Field Programmable Gate Arrays (FPGAs) by using newly proposed approximate logic</i></p>	Journal	Arithmetic core

		<i>compressors at different levels of accuracy.</i>		
19	TVMAT01158	<p>Design and Verification of 4 X 4 Wallace Tree Multiplier <i>Objective: The aim of this paper is to study 4x4 Wallace tree multiplier. In high performance processing units & computing systems, multiplication of two binary numbers is primitive and most frequently used arithmetic operation.</i></p>	Journal	Xilinx Vivado
20	TVMAFE601	<p>Design And Implementation of UART Based on Verilog HDL <i>Objective: This paper will fully understand the structure and principle of UART, function and implementation on the basis of the use of Verilog HDL language, by describing its function, to achieve the construction of UART.</i></p>	Journal	Communication
21	TVPGBE164	<p>Design and Implementation of RNB multiplier Using NP Domino logic <i>Objective: The main objective of this project is to reduce the delay of RNB multiplier using NP Domino Logic.</i></p>	Conference	Transistor Logic
22	TVMAOT08	<p>A Real-Time Object Detection Processor With XNOR- Based Variable-Precision Computing Unit <i>Objective: In this article, we propose an algorithm-hardware co-optimization approach to designing a real-time object detection system.</i></p>	Transaction	Matlab Interfacing

23	TVMAFE602	<p>An Ultra-Efficient Approximate Multiplier With Error Compensation for Error-Resilient Applications</p> <p><i>Objective: The main objective of this project is to present an energy efficient approximate multiplier.</i></p>	Transaction	Arithmetic core
24	TVPGE335	<p>Low power Dadda multiplier using approximate almost full adder and Majority logic based adder compressors</p> <p><i>Objective: In this work, we proposed a very novel design approaches based on various monolithic 4:2 compressors.</i></p>	Conference	Arithmetic core
25	TVMI111	<p>High Speed Gate Level Synchronous Full Adder Designs</p> <p><i>Objective: This article primarily focuses on the novel design of full adders at the logic level and also highlights a comparison with many other existing gate level solutions, from performance and area perspectives.</i></p>	Transaction	Arithmetic core
26	TVMABE239	<p>Design of DRAM Sense Amplifier using 45nm Technology</p> <p><i>Objective: In this proposed technique, we are utilising the DRAM sense amplifier along with the FSPA-VLSA (Foot Switch PMOS Access Voltage Latch Type Sense Amplifier).</i></p>	Conference	Core Memory

27	TVMABE240	<p>Design and Analysis of a 2.4 GHz Fully Integrated 1.8V Power Amplifier in TSMC 180nm CMOS RF Process for Wireless Communication</p> <p><i>Objective: In this paper, cascode topology with inductively degenerated common-source CMOS power amplifier is suggested with improved gain, isolation, better stability and sufficient linearity over the operating range</i></p>	Conference	Transistor Logic
28	TVMABE236	<p>A Low-Complexity Sensing Scheme for Approximate Matching Content-Addressable Memory</p> <p><i>Objective: This brief presents a novel sensing approach for approximate matching content-addressable memory (CAM) designed to handle large Hamming distances (HDs) between the query pattern and stored data.</i></p>	Transaction	Core memories
29	TVMAFE606	<p>AxBMs: Approximate Radix-8 Booth Multipliers for High-Performance FPGA-Based Accelerators</p> <p><i>Objective: This brief bridges this gap by proposing high performance approximate radix-8 Booth multipliers whose designs target FPGA-based systems.</i></p>	Transaction	Arithmetic core

30	TVPGFE337	FPGA implementation of high performance digital FIR filter design using a hybrid adder and multiplier <i>Objective: In this technique, the basic hybrid adder is designed with the help of 2-bit adders, BEC and 4:1 Multiplexer for high performance.</i>	Journal	
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S.No	Title ID	Title Name	Journal type	Domain
1	TVPGFE329	<p>VLSI Design of Pipelined FFT Architecture for DSP Application</p> <p><i>Objective: The main objective of this paper is to implement single delay feedback FFT.</i></p>	Conference	DSP
2	TVMAFE567	<p>Area Reduction AES Algorithm in Hardware Trojan Detection</p> <p><i>Objective: The main objective of this project is to implement AES using Trojan Detection approach</i></p>	Conference	Communication
3	TVMAFE568	<p>Module Implementation and Simulation of Timing Constraint Check Function of I2C Protocol Using Verilog</p> <p><i>Objective: The main objective of this paper is to implement I2C protocol to perform read/write operations</i></p>	Conference	Communication
4	TVMATO1150	<p>Design & Verification of AMBA AHB-Lite Memory Controller</p> <p><i>Objective: The main aim of this project is to implement AMBA-3AHB lite to perform read/write operations</i></p>	Conference	Communication
5	TVMAFE571	<p>High-Speed Counter With Novel LFSR State Extension</p> <p><i>Objective: The main objective of this project is to implement 64-bit counter based on LFSR</i></p>	Transactions	Arithmetic Core

6	TVMAFE569	<p>Analysis of Low-Delay in 64-bit Vedic multiplier based MAC unit</p> <p><i>Objective: The main objective of this project is to implement MAC unit using vedic multiplier.</i></p>	Conference	Arithmetic core
7	TVMABE226	<p>Low Power Redundant Transition Free TSPC Dual Edge Triggering Flip Flop Using Single Transistor Clocked Buffer</p> <p><i>Objective: The main objective of this project is to design the dual triggering flip-flop using STC</i></p>	Transactions	Low Power VLSI
8	TVMI106	<p>An Energy Efficient High Performance CMOS Transmission Gate Full Adder Circuit</p> <p><i>Objective: The main objective of this project is to design the full adder using transmission gate logic</i></p>	Conference	Transistor Logic
9	TVMAFE572	<p>Scalable Low-Cost Sorting Network with Weighted Bit-Streams</p> <p><i>Objective: The main aim of this work is to implement new sorting algorithm in order to reduce area.</i></p>	Conference	Communication
10	TVMI108	<p>Towards Energy Efficient Cost Effective Toffoli Gate Design using Quantum Cellular Automata</p> <p><i>Objective: This work presents an energy-efficient and cost-effective QCA design of a 3X3 Toffoli gate which utilises the</i></p>	Conference	QCA

		<i>Layered T (LT) logic reduction technique.</i>		
11	TVMAFE574	<p>Truncated Booth Multiplier Design Of Approximate Compressors Using Verilog Hdl</p> <p><i>Objective: The main objective of this project is to implement 16-bit booth multiplier using radix-256 in order to improvise performance.</i></p>	Conference	Arithmetic Core
12	TVMATO1153	<p>Design of Advanced Encryption Standard using Verilog HDL</p> <p><i>Objective: The main objective of this AES is to encrypt the data with highly secured transmission of data.</i></p>	Conference	Communication
13	TVMAFE577	<p>An Efficient Implementation of the Novel Data Encryption Standard (DES) Algorithm with Improved Key Generation Method Compared with Viterbi Decoder</p> <p><i>Objective: This study presents an efficient implementation of the Novel Data Encryption Standard (DES) algorithm with an improved key generation method and the result is compared with the Viterbi decoder algorithm</i></p>	Conference	Communication
14	TVMI110	<p>Efficient Novel Binary to Gray Code Converter Using Coulombic Interaction on</p>	Conference	QCA

		<p>Quantum Dot Cellular Automata</p> <p><i>Objective: In this research paper, a novel design for a Binary to gray code converter using QCA technology is presented.</i></p>		
15	TVMA01	<p>Encryption and Decryption using optimized Reconfigurable Reversible Gate</p> <p><i>Objective: This paper explains an application of reconfigurable logic, Encryption of data, Decryption of the same data implemented using Verilog coding.</i></p>	Conference	Communication
16	TVMAFE578	<p>FPGA Implementation of Associative Processors</p> <p><i>Objective: In this brief, we proposed a novel FPGA implementation of the AP, including the CAM and its peripheral circuits, such as the controller, data cache, instruction cache, and program counter. The design details of the whole AP architecture are described by Verilog HDL.</i></p>	Transaction	DSP
17	TVPGE331	<p>FPGA-Supported HDL Approach to Implement Reversible Logic Gate-Based ALU</p> <p><i>Objective: In this research, we suggest adopting reversible logic gates rather than</i></p>	Conference	Airthematic core

		<i>conventional gates to design and synthesize a 16-bit reversible ALU.</i>		
18	TVMAFE580	<p>Area-Efficient LFSR-Based Stochastic Number Generators with Minimum Correlation</p> <p><i>Objective: The main objective of this project is to reduce the size of SNGs, we propose a new design approach that shares a combination of the permutations and negations of one LFSR's output for several SNGs.</i></p>	Journal	Communication
19	TVMAFE581	<p>Integration of SPI with AXI Protocol</p> <p><i>Objective: The main objective of this project is to integrate the SPI protocol using AXI</i></p>	Concept	Communication
20	TVMAFE582	<p>LOW POWER DESIGN OF SPI AND I2C PROTOCOL IN VERILOG HDL</p> <p><i>Objective: The purpose of this paper is to provide a full description of a high speed SPI Master/Slave implementation with clock gating technology</i></p>	Concept	Communication
21	TVMABE228	<p>An Area-Efficient High-Resolution Segmented $\Sigma - \Delta$-DAC for Built-In Self-Test Applications</p> <p><i>Objective: In this article, a segmented DAC architecture is proposed.</i></p>	Transaction	Transistor Logic

22	TVMAFE583	<p>Integration of I2C with AXI Protocol</p> <p><i>Objective: The main objective of this project is to integrate the I2C protocol using AXI</i></p>	Concept	Communication
23	TVMATO1155	<p>A PROVABLY SECURE STRONG PUF BASED ON LWE:CONSTRUCTION AND IMPLEMENTATION</p> <p><i>Objective: The main objective of this project is to implement strong LFSR based PUF which provides high security to system hardware.</i></p>	Access	Cryptography
24	TVMAFE584	<p>Implementation of Delayed LMS algorithm based Adaptive filter using Verilog HDL</p> <p><i>Objective: This paper focuses on the implementation of Delayed Least Mean Square algorithm based Adaptive filter in Verilog HDL.</i></p>	Journal	DSP Core
25	TVMAFE585	<p>AxPPA Approximate Parallel Prefix Adders</p> <p><i>Objective: In this work, we introduce approximate PPAs (AxPPAs) by exploiting approximations in the POs.</i></p>	Transactions	Airthematic Core
26	TVMABE230	<p>Title: Robust Body Biasing Techniques for Dynamic Comparators</p> <p><i>Objective: This paper compares three different techniques: the clocked FBB (CFBB) proposed, an improvement of CFBB and a</i></p>	Conference	Transistor Logic

		<i>new hybrid approach that achieves the best performance in terms of delay.</i>		
27	TVMABE231	<p>Title: Overview on Latch-Up Prevention in CMOS Integrated Circuits by Circuit Solutions</p> <p><i>Objective: An overview on circuit methodology used to prevent latch-up issues in CMOS integrated circuits (ICs) is presented in this article.</i></p>	Journal	Transistor Logic
28	TVMABE232	<p>High-Precision and Low-Power Offset Canceling Tri-State Sensing Latch in NAND Flash Memory</p> <p><i>Objective: In this brief, the offset canceling tri-state sensing latch (OCTSL) is proposed that achieves high-precision and low-power read operation.</i></p>	Transaction	Low Power VLSI
29	TVPGBE155	<p>Energy-Efficient Single-Ended Read/Write 10T Near-Threshold SRAM</p> <p><i>Objective: The proposed SE10T improves read stability and write stability with the help of a built-in read-assist scheme and a power-gating technique, respectively, and reduces power/energy consumption by using single-ended read/write operation and stacking of transistors in the cell core.</i></p>	Transaction	Core Memories
30	TVPGTO935	<p>Comparative Analysis of Phase/Frequency Detector in a Complete PLL System</p> <p><i>Objective: This work goes to test various different</i></p>	Conference	Core Memories

		<i>phase/frequency detector blocks with a standard charge pump and Voltage controlled oscillator design</i>		
31	TVPGBE156	<p>Local Bit-Line SRAM Architecture With Data-Aware Power-Gating Write Assist</p> <p><i>Objective: In this brief, a local bit-line (LBL) SRAM with data-aware power-gating write assist is proposed for near-threshold operation.</i></p>	Transactions	Low Power VLSI
32	TVPGBE157	<p>A Differential Flip-Flop With Static Contention-Free Characteristics In 28 Nm For Low-Voltage, Low-Power Applications</p> <p><i>Objective: A static contention-free differential flip-flop (SCDFF) is presented in 28-nm CMOS for low-voltage and low-power applications</i></p>	Journal	Low Power VLSI
33	TVMAFE586	<p>Architectural Exploration for Energy-Efficient LMS and NLMS Adaptive Filters VLSI Design</p> <p><i>Objective: This work proposes architectural solutions for LMS and NLMS algorithms targeting an energy-efficient VLSI design.</i></p>	Conference	DSP Core
34	TVPGBE158	<p>CMOS Clock-Gated Synchronous Up-Down Counter With High-Speed</p>	Transactions	Transistor Logic

		<p>Local Clock Generation and Compact Toggle Flip-Flop</p> <p><i>Objective: In this paper, a high-speed low-power CMOS synchronous up/down counter with a novel compact toggle flip-flop is proposed to achieve energy- and area-efficient speed enhancement</i></p>		
35	TVMAFE587	<p>Design and Implementation of BIST Architecture for low power VLSI Applications using Verilog</p> <p><i>Objective: The research investigates various power reduction techniques, including test pattern compression, selective clock gating, and power-aware test scheduling, to optimize power consumption during testing.</i></p>	Conference	Testing
36	TVMAFE588	<p>Design of a VLSI Router for the Faster Data Transmission Using Buffer</p> <p><i>Objective: This paper proposes a modified VLSI-based router architecture that is optimized for high-speed data transfer and low power consumption.</i></p>	Conference	Communications
37	TVMAFE589	<p>High Performance VLSI Architecture of FIR Filter for Seismic Signal Processing</p> <p><i>Objective: In this paper, we present a new LO and LD minimization matrix grouped CSE algorithm that outperforms existing CSE algorithms.</i></p>	Conference	DSP Core

38	TVMAFE590	<p>Implementation of Area Efficient Adders for Inexact Computing</p> <p><i>Objective: For high mathematical complexity applications, approximate adders are proposed as a feasible solution in this paper, which can give a better trade-off with accuracy in terms of energy consumed, area occupied and delay</i></p>	Conference	Arithmetic Core
39	TVMAFE591	<p>VLSI ARCHITECTURES FOR SECURITY ANALYSIS WITH DUAL-KEY LFSR USING BARREL SHIFTER AND S-BOX</p> <p><i>Objective: This paper focuses on building cryptographic systems using a scrambler circuit constructed using reversible logic gates, S-Box, a barrel shifter, and an LFSR that generates a 4-bit random key which is then used as a dual key for XOR and a barrel shifter.</i></p>	Conference	Communications
40	TVMAFE592	<p>VLSI Design of Majority Logic based Wallace Tree Multiplier</p> <p><i>Objective: By using the Wallace Tree multipliers architecture and improving the adder in each Wallace Tree phase, reduce the unnecessary latency.</i></p>	Conference	Arithmetic Core
41	TVMAFE593	<p>VLSI Synthesis of Multiply and Accumulate Structures Using Distributed Arithmetic</p> <p><i>Objective: This paper shows how the parameter of inputs in</i></p>	Conference	Arithmetic Core

		<i>the data path affects different MAC cores.</i>		
42	TVMAFE594	<p>Realization of High Performance Approximate Multipliers for FPGA Application</p> <p><i>Objective: The proposed study aims to provide a 64-bit approximation multiplier with high throughput and low latency for cutting-edge DSP applications.</i></p>	Conference	DSP Core
43	TVMABE235	<p>A Rail-to-Rail Transconductance Amplifier Based on Current Generator Circuits</p> <p><i>Objective: In this work, two current generator circuits are configured based on n-channel and p-channel cascode current mirrors to achieve a self-biasing topology.</i></p>	Transactions	Transistor Logic
44	TVMABE236	<p>A Low-Complexity Sensing Scheme for Approximate Matching Content-Addressable Memory</p> <p><i>Objective: This brief presents a novel sensing approach for approximate matching content-addressable memory (CAM) designed to handle large Hamming distances (HDs) between the query pattern and stored data.</i></p>	Transactions	Core Memories
45	TVPGBE159	<p>A DFT-Compatible In-Situ Timing Error Detection and Correction Structure Featuring Low Area and Test Overhead</p>	Transactions	Transistor Logic

		<p><i>Objective: In this work, we propose a novel DFT-compatible EDAC structure and corresponding test methods with signal control simplification and pattern-generation complexity reduction to achieve a low area overhead and test complexity.</i></p>		
46	TVPGBE160	<p>Implementation of a Multipath Fully Differential OTA in 0.18-um CMOS Process</p> <p><i>Objective: In this brief, two FVF cells are used as two nonlinear tail current sources with the capability of increasing the dynamic currents under large-signal operation, causing a high SR performance.</i></p>	Transactions	Transistor Logic
47	TVMABE237	<p>Analysis and Measurements of an Urea Biosensor Based on Instrumentation Amplifier Chip With Cross-Coupled Technique</p> <p><i>Objective: In this study, a cross-coupling technique was applied to improve the characteristics of the two-stage amplifier.</i></p>	Transactions	Transistor Logic
48	TVMAFE595	<p>Area Efficient Approximate 4-2 Compressor and Probability-Based Error Adjustment for Approximate Multiplier</p> <p><i>Objective: In this brief, we have presented a novel area efficient 4-2 compressor and a brand-new hybrid combination method of probabilistic adjustment employing approximate compressors.</i></p>	Transactions	Arithmetic Core

49	TVMAFE596	<p>CAAM: Compressor-Based Adaptive Approximate Multiplier for Neural Network Applications</p> <p><i>Objective: This proposes a new multiplier architecture based on the algorithm that adapts the approximate compressor from the existing and proposed compressors' set to reduce error in the respective partial product columns.</i></p>	Transactions	DSP Core
50	TVPGFE332	<p>Simplified Compressor and Encoder Designs for Low-Cost Approximate Radix-4 Booth Multiplier</p> <p><i>Objective: To balance the generated errors for enlarging the range of approximation, we force two simplified operations to have different error directions while minimizing their hardware costs with aggressive unit-gate architectures.</i></p>	Transactions	Arithmetic core
51	TVPGFE333	<p>Two Efficient Approximate Unsigned Multipliers by Developing New Configuration for Approximate 4:2 Compressors</p> <p><i>Objective: The paper seeks to develop approximate compressors that align positive and negative approximations for input patterns that have the same probability.</i></p>	Transactions	DSP Core
52	TVMAFE597	<p>Efficient Approximate Posit Multipliers for Deep Learning Computation</p>	Journal	Communication

		<p>Objective: To solve this cost problem, in this paper, posit multipliers with approximate computing features are proposed.</p>		
53	TVMAFE603	<p>A Lightweight True Random Number Generator for Root of Trust Applications</p> <p>Objective: This work presenting a simple, yet effective, all-digital lightweight and self-testable random number generator to produce a nonce</p>	Transaction	Arithmetic core
54	TVMAFE604	<p>Design of Implicit Partial Product-LDPC Codes and Low Complexity Decoding Algorithm</p> <p>Objective: In this letter, we focus on the mentioned implicit partial product low-density parity-check (IP-LDPC) codes and discuss their constructions in details.</p>	Journal	Testing
55	TVPGE336	<p>Design of Optimal Multiplierless FIR Filters With Minimal Number of Adders</p> <p>Objective: This work presents two novel methods that simultaneously optimize both the design of a finite impulse response (FIR) filter</p>	Transaction	DSP Core
56	TVMAFE605	<p>Design of Approximate Bilateral Filters for Image Denoising on FPGAs</p> <p>Objective: A novel approximate computing strategy is introduced to reduce the</p>	Journal	DSP Core

		<i>computational complexity of the image denoising operation and to comply with realtime requirements</i>		
57	TVPGT0936	<p>Hybrid Protection of Digital FIR Filters</p> <p><i>Objective: To protect filter coefficients from an adversary, efficient obfuscation techniques have been proposed, either by hiding them behind decoys or replacing them by key bits.</i></p>	Transactions	DSP core
58	TVPGBE165	<p>Scan Chain Architecture With Data Duplication for Multiple Scan Cell Fault Diagnosis</p> <p><i>Objective: In this article, a new hardware architecture with data duplication is proposed to diagnose fault locations by deliberate voltage collision even if multiple faults occur</i></p>	Transaction	Transistor Logic

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