# ERODE SENGUNTHAR
## ENGINEERING COLLEGE
**(An Autonomous Institution)**

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**PERUNDURAI -638 057, TAMILNADU, INDIA.**

### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

### PROJECT LIST

| Name of the Project | Name of the Student | Name of the Faculty | Type of Project (application / real-time/ R&D ) | Address the issue | POs & PSOs | Outcome of the Project |
|---|---|---|---|---|---|---|
| Automated Campus Tour Guide | Abinesh A<br>Mageshwar B<br>Magudeeswaran M<br>Dineshkumar P | Mrs.K.R.Priyadharshini | Application | The Automated Campus Tour Guide seeks to enhance the campus visit experience by integrating GPS technology with an audio-based system that provides location-specific, real-time information to visitors | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper in national Conference |
| Automatic Pesticide Sprayer Using MIST | Ajay S<br>Arjun K<br>Gowtham Vk<br>Jeevanantham K | Mr.N.Sakthivel | Real Time | A roller vehicle which work automatically according to the land using the programming in the controller | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper presentation in symposium |
| Satellite Based Automatic Road | Ambika D<br>Jamuna Rani N | Dr.S.Bharathidasan | Application | A GPS and GSM-based satellite-based automated | PO1, PO2, PO3, PO4, PO5, PO6, | Presented a paper |

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| Accident Detection and Alert System using GPS and GSM | Devipriya G<br>Jeslyn S | | | system for detecting and warning of traffic accidents | PO9, PO10, PO11, PSO1, PSO2, PSO3 | presentation in symposium |
| Empowering Artistic Expression Through AI-Driven Innovation | Arjun R | Dr.S.Bharathidasan | R&D | Adaptive robotic art system that combines AI- based image generation with a hardware-integrated 2D plotting mechanism to encourage creative expression. | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Published a paper in international Journal |
| Patient Monitoring System Using Labview | Balamurugan V<br>M Chandru N<br>Cipiraj R P<br>Gokulakrishnan G S | Dr.R.Kalaivani | Real Time | Continuous monitoring of vital parameters allows healthcare professionals to detect abnormalities early, reducing the risk of complications and enabling prompt medical responses. In recent years, various patient monitoring systems have been developed | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper in international Conference |

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| Solar Power Management using Machine Learning | Balasaravanan N<br>Gobianand K<br>Hariprasath V<br>Karthik R | Dr.V.Thamizharasan | Application | Machine learning-based MPPT systems, collect real-time data and make adjustments on the fly, improving response time and reducing energy waste during abrupt changes in sunlight or weather. | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper in national Conference |
| Intelligent Toilet System for Enhanced Hygiene and Comfort Using IoT | Bhavani V<br>Gayathri R<br>Kavitha P<br>Madhumitha T | Ms.C.Mekala | R&D | Advanced smart toilet availability and cleaning system designed to enhance restroom management through the integration of sensor technology. | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper presentation in symposium |
| Identification of Ripeness of fruits using E-Nose Technology | Dhanalakshmi S<br>Dhanasri P S<br>Durgeshwari D | Mr.M.Karthikkumar | Real Time | Electronic Nose (E-Nose), a non-destructive device that analyzes volatile organic compounds (VOCs) emitted by fruits as they ripen | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper presentation in symposium |
| FPGA Implementation of high Performance Carry-Look Adder | Dharshini N<br>Jayasri M<br>Kayathri C | Dr.V.Thamizharasan | Application | A novel hybrid CLA-based adder architecture to improve performance for cryptography and signal processing systems, successfully implemented on | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper in national Conference |

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| Architecture for Signal Processing Applications | | | | an FPGA (Spartan 3E) Kit | | |
| Greenhouse Monitoring and Controlling system | Dhinesh Kumar P<br>Karthigan P<br>Jayasurya J | Mr.M.Karthikkumar | R&D | By collecting environmental data and sending it to smart phones through online mode, farmers can now remotely oversee their fields regardless of their location | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper in national Conference |
| Green guard Recycling hub and Waste Management | Dhusyanth Raam J S<br>Logesh Kumar T<br>Mahavishnu J<br>Gowthulalam M | Mr.S.Gladson | Real Time | Green Guard Recycling Hub system integrates hardware and software components to streamline the collection, sorting, and recycling of waste materials. | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Published a paper in international Conference |
| Wavegen Mini | Ganesh B<br>Gokil Raja P<br>Dharanish V<br>Gopinath M | Dr.V.Thamizharasan | Application | By employing advanced treatment methods such as membrane filtration and activated carbon, Gray water can be purified to a level that is safe for reuse, including drinking, irrigation, and industrial process. | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper presentation in symposium |
| Design and | Hemalatha T | Dr.V.Thamizharasan | R&D | A comprehensive analysis | PO1, PO2, PO3, | Presented a |

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| Performance Analyze of Full-Adder using various VLSI circuit families | Akalya S<br>Geetha S | | | and comparison of full adder designs using different VLSI circuit families, including CMOS, TTL, GDI, ECL, BiCMOS, and PTL | PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | paper presentation in symposium |
| Enhanced Water System Management Using IOT and Fuzzy Logic | Ilakkiyavani K R<br>Krishna Bharathi A | Ms.M.A.Asuvanthi | Application | an Enhanced Water Management System Using IoT that leverages IoT technology to provide precise real-time monitoring ofwater levels in liters, moving beyond traditional methods that rely on percentage-basedor arbitrary volumetric measurements | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper presentation in symposium |
| Design and implementation of solar panel cleaning robot by using node MCU | Manoj A<br>Parthipan.R<br>Naveen PV<br>SriAravind.K | Dr.S.Poorani | R&D | A Node MCU microcontroller is used to control asemi-automated robot that cleans solar panels over Wi-Fi | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper in national Conference |

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| Connected 3D Scanning Solution for Enhanced Mobility of the Blind | Mohana C<br>Nithya.B.S<br>Vikashini.V.S<br>Saranya.P | Mr.S.Gladson | Application | IoT based 3D scanning system designed to detect and recognize objects, providing real-time tactile using IoT technology | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper in international Conference |
| Wireless mobile charging seats by solar with fast charging | Mathavan R<br>Moulishankar K T<br>Mounesh S<br>Tamizhazhagan T | Ms.D.Viji | R&D | Wireless mobile charging seats powered by solar energy use inductive charging for wire-free power transfer, fast charging protocols for rapid device charging, and energy storage systems to ensure consistent performance even in low sunlight | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper presentation in symposium |
| Vertical Plant Irrigation and Monitoring System using IOT Cloud in Shopping Mall | Nandha Kumar S<br>Pathi.M<br>Santhosh.S<br>SrimanSaran.K | Mr.M.Karthikkumar | Real Time | Vertical Plant Irrigation System is an enhanced solution for automated plant care, improving upon previous smart watering technologies by integrating the Arduino R4 Wi-Fi controller and capacitive soil moisture sensors for higher accuracy and durability | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper in national Conference |

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| AI Based IOT Real Time Air Monitoring System | Neshitha M<br>SriMathi.G<br>Nivetha<br>Nivetha.S.P | Dr.R.Kalaivani | Application | Air pollution in industrial environments, particularly in chrome plating facilities, presents serious health risks due to hazardous pollutants such as hexavalent chromium, volatile organic compounds (VOCs), and fine particulate matter (PM2.5 & PM10) | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper in international Conference |
| A creamy delight churner machine | Poovarasi.M<br>Priyankadevi.S<br>Vijayalakshmi.P<br>Selvarani.S | Ms.K.R.Priyadharshini | R&D | Butter churner machine using temperature and humidity sensors with auto-filtering through motor control describes an innovative system designed to enhance butter production efficiency | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper presentation in symposium |
| Empowering Artistic Expression Through AI-Driven Innovation | Ragulgandhi.S<br>Vishal.S.V | Dr.S.Bharathidasan | Real Time | Adaptive robotic art system that combines AI- based image generation with a hardware-integrated 2D plotting mechanism to encourage creative expression. | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Published a paper in international Journal |

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| Design of high speed BCD adder using CMOS Technology | Suriya.B | Dr.V.Thamizharasan | Application | Advanced CMOS-based high-speed BCD adder architecture leveraging fast correction logic and optimized carry handling to enhance efficient decimal computation for next-generation digital processing systems performance. | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper presentation in symposium |
| Soil analysis and crop recommendation using machine learning | Rajeshkumar.S<br>Roy Marshal.J<br>Vidhyadharan.R<br>Shamkumar.S | Dr.R.Kalaivani | R&D | The analysis of the soil type and conditions by using live video processing of a zone contributes significantly to deciding the right crop for the right land in the right season to obtain a better yield | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper in national Conference |
| Design of combined pipeline flow monitoring and control using various sensing technologies | Sujeeth.P<br>Suresh Kumar.P<br>Thiyagarajan.S<br>Suthish M | Mr.N.Sakthivel | Real Time | A real-time pipeline leakage detection and control system that can be installed in residential hydraulic facilities | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper in national Conference |

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| Intelligent farming systems IOT enabled real time monitoring and control | Keerthivasan R<br>Thirumoorthy T<br>YaswanthSri P | Ms.R.Savitha | Application | An alert system employing a buzzer promptly notifies farmers of critical information, ensuring timely interventions to optimize agricultural processes | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper presentation in symposium |
| Smart Wearable Location Tracker During Disaster Using IOT | Sandosh.S<br>Vinothkumar.S<br>Abhishek Kumar<br>Sonu Kumar | Ms.V.Gayathri | Real Time | To prevent or reduce the number of fatalities following a potential earthquake by developing a wearable sensor and tracking system. | PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO10, PO11, PSO1, PSO2, PSO3 | Presented a paper in national Conference |