

CODE	TITLE	APPLICATION / DESCRIPTION
VTES01	Embedded energy monitoring system for solar applications	<b>Description:</b> An embedded energy monitoring system tracks and analyzes energy generation and consumption in solar power setups. It provides real-time data on voltage, current, power, and efficiency using sensors and microcontrollers. This system helps optimize solar energy usage and ensures system reliability and performance
VTES02	Development of a multi-sensor mobile device for urban air quality monitoring at the street corner: the smile project	<b>Description:</b> The SMILE project created a mobile device with multiple sensors to monitor street-level urban air quality in real time. It provides localized data on pollutants and environmental conditions to support public health and city planning
VTES03	Smart embedded system for efficient quality food production in controlled environments	<b>Description:</b> A smart embedded system designed to monitor and control environmental conditions for high-quality food production. It ensures optimal growth by managing factors like temperature, humidity, and light in real time
VTES04	Design of an experimental measurement and control system for a custom hydrogen fuel cell	<b>Description:</b> An experimental system developed to measure and control the performance of a custom hydrogen fuel cell. It monitors key parameters like voltage, current, and temperature to optimize efficiency and safety
VTES05	A fiber-optic sensor for dual-parameter measurement of seawater temperature and salinity	<b>Description :</b> A fiber-optic sensor using SPR-MZ interference designed to measure seawater temperature and salinity simultaneously. It offers high sensitivity and accuracy for real-time ocean monitoring applications
VTES06	A portable and power-efficient flue gas monitoring system for real-time air quality measurement	<b>Description:</b> A portable, low-power system designed for real-time monitoring of flue gas emissions and air quality. It detects key pollutants to support environmental compliance and pollution control efforts
VTES07	Human sleeping posture recognition based on sensors combined with airbag bed detection	<b>Description :</b> A sensor-based system integrated with an airbag bed to recognize and monitor human sleeping postures. It enhances sleep quality and safety by detecting position changes in real time
VTES08	Dependable Dempster-Shafer inference framework for urban air quality monitoring	<b>Description:</b> A Dempster-Shafer inference framework designed to enhance the reliability of urban air quality monitoring. It fuses data from multiple sources to provide accurate and dependable pollution assessments
VTES09	Research on multimodal fusion perception technology for autonomous sweeping vehicle	<b>Description:</b> This research focuses on multimodal fusion perception technology for autonomous sweeping vehicles. It combines data from sensors like LiDAR, and radar to improve navigation and obstacle detection

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VTES10	Safe and energy-efficient jerk-controlled speed profiling for on-road autonomous vehicles	<b>Description:</b> This approach designs jerk-controlled speed profiles to ensure smooth and safe driving for autonomous vehicles. It minimizes sudden accelerations and decelerations to enhance passenger comfort. The method also improves energy efficiency during on-road vehicle operation
VTES11	Smartphone enabled wearable diabetes monitoring system	<b>Description:</b> It tracks glucose levels using non-invasive or minimally invasive sensors and sends data to a mobile app. The system helps patients manage their condition more effectively with real-time alerts and insights
VTES12	Classification of coffee beans quality using gas sensors	<b>Description:</b> This project focuses on classifying that detect aroma compounds. The sensor data is processed to identify freshness, roast level, or possible contamination. It offers a fast, non-invasive method for quality control in the coffee industry
VTES13	Helm sentry evaluation of vehicle self-repairing system	<b>Description:</b> This project, Helm Sentry, evaluates a vehicle's ability to detect and initiate self-repairing actions. It uses sensors and a monitoring system to identify faults and trigger automated repair mechanisms where possible. The goal is to enhance vehicle reliability, reduce downtime, and improve safety through intelligent maintenance
VTES14	Embedded system for controlling temperature, relative humidity, and lighting for a test chamber	<b>Description :</b> This project designs Sensors monitor environmental conditions, and a microcontroller adjusts devices to maintain set parameters. It ensures precise and stable conditions for experiments, product testing, or research applications
VTES15	An autonomous braking system for formula student racing based on microcontroller	<b>Description:</b> It processes sensor data to detect obstacles or emergencies and activates the brakes automatically. The system enhances driver safety and supports autonomous vehicle operation during testing or competition
VTES16	Study and analysis of human discomfort in autonomous vehicles	<b>Description :</b> The study focuses on understanding factors that cause human discomfort in autonomous vehicles. It analyzes motion, driving behavior, and environmental influences on passenger experience. Insights help improve comfort and acceptance of autonomous driving technology
VTES17	Real-time elderly fall detection as ambient intelligence in old age homes	<b>Description:</b> This project develops a real-time fall detection system for elderly care using ambient intelligence. It uses motion sensors to monitor movements and detect falls automatically. The system instantly alerts caregivers, ensuring faster response and improved safety in old age homes
VTES18	Intelligent air quality detection device based on edge computing	<b>Description:</b> This measures pollutants like GASES with onboard sensors and processes data locally. The system ensures faster responses and reduces reliance on cloud connectivity

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VTES19	Drone-based aerial surveillance and real-time hazardous gas leakage detection system with Power-Bi dashboard integration for enhanced environmental safety	<b>Description:</b> This project uses real-time hazardous gas leakage detection. Gas sensors on the drone collect data, which is visualized through a Power BI dashboard. The system enhances environmental safety by enabling rapid detection and informed decision-making
VTES20	Development of a system for measuring the security performance of spoof fingerprint detection in access control devices with embedded biometric fingerprint recognition	<b>Description:</b> This project develops, It tests the device's ability to distinguish real fingerprints from fake ones using controlled spoofing attempts. The system helps improve the reliability and security of fingerprint-based access control
VTES21	An efficient urban building height rover using ultrasonic sensor	<b>Description:</b> This project measure the height of buildings accurately. It operates by sending sound waves and calculating the time taken for the echo to return. This system is cost-effective, portable, and suitable for urban planning and survey applications
VTES22	Smart temperature monitoring system with GPS integration for pharmaceutical safety	<b>Description:</b> The safe storage and transport of pharmaceutical products. It continuously tracks temperature levels and location in real time. This helps prevent spoilage and ensures compliance with safety regulations
VTES23	Home safety system with earthquake and fire detection	<b>Description :</b> The advanced sensors to provide early warnings. It alerts residents in real time through alarms and notifications. This system enhances household safety and helps prevent major damage or injuries.
VTES24	Real time energy monitoring and location tracking system for medical equipment management in hospital	<b>Description:</b> This system monitors real-time energy usage and tracks the location of medical equipment within a hospital. It uses sensors and it improve efficiency and reduce energy waste. The system ensures better equipment management and faster access during emergencies
VTES25	Tech-enhanced forest nursery management: harnessing embedded systems for plant health monitoring and growth forecasting	<b>Description :</b> This system uses embedded sensors to monitor plant health and environmental conditions in real time. It forecasts plant growth using collected data and smart algorithms. The solution improves nursery management and boosts plant survival rates efficiently
VTES26	Waste sorting system: development of an embedded solution for efficient waste management	<b>Description:</b> This project involves developing an embedded system for automatic waste sorting using sensors and microcontrollers. It identifies and separates waste into categories like plastic, metal, and organic. The solution promotes efficient recycling and sustainable waste management.
VTES27	Smart Rail: a system for the continuous monitoring of the track geometry based on embedded arrays of fiber optic sensors	<b>Description:</b> This project uses embedded fiber optic sensor arrays to continuously monitor railway track geometry. It detects misalignments, wear, and structural issues in real-time. The system enhances rail safety and reduces maintenance costs through early fault detection.

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VTES28	A lightweight network deployed on arm device for hand gesture recognition	<b>Description:</b> To recognize hand gestures in real-time. It ensures low power consumption and fast processing on embedded systems. The solution enables efficient and portable gesture-based control interfaces
VTES29	Event-triggered output feedback model predictive control for path following of autonomous vehicles	<b>Description:</b> An event-triggered output feedback model predictive control system is designed for autonomous vehicle path following. It reduces unnecessary computations by updating control actions only when needed. This approach ensures accurate tracking with improved efficiency and reduced communication load.
VTES30	Multimodal point pillars for efficient object detection in autonomous vehicles	<b>Description:</b> This system combines multiple sensor data using a Multimodal Point Pillars approach to improve object detection efficiency and accuracy. By fusing different types of data, it enhances the vehicle's ability to detect and classify objects in real-time, even under challenging conditions, while maintaining fast processing speeds for safer autonomous driving
VTES31	Development of a pressure sensing system coupled with deployable models for prosthetic applications	<b>Description:</b> A pressure sensing system is developed and integrated with deployable models to enhance prosthetic functionality. This setup improves user comfort and responsiveness in prosthetic applications.
VTES32	Quantification of volatile organic compounds in gas mixtures exploiting temperature modulation of MOS sensor array	<b>Description :</b> This project quantifies volatile organic compounds in gas mixtures using a MOS sensor array with temperature modulation. It enhances detection accuracy by analyzing sensor response patterns under varying thermal conditions
VTES33	Temperature drift compensation for MEMS-IMU systems	<b>Description:</b> This project focuses on compensating temperature drift in MEMS-IMU systems to improve sensor accuracy. It uses algorithms to correct errors caused by temperature variations during operation
VTES34	Preparation of flexible wearable temperature sensors using electro fluidic jet printing manufacturing technology and composite material.	<b>Description :</b> Flexible wearable temperature sensors are fabricated using electro fluidic jet printing, enabling precise deposition of composite materials. This method allows for lightweight, stretchable, and highly sensitive thermal sensing devices
VTES35	An efficient high-risk lane-changing scenario edge cases generation method for autonomous vehicle safety testing	<b>Description:</b> This method generates high-risk lane-changing scenarios to test autonomous vehicle safety. It focuses on creating rare and challenging edge cases for thorough evaluation. The approach improves testing efficiency and helps ensure safer autonomous driving systems
VTES36	Smart power theft monitoring with ZigBee technology	<b>Description:</b> This system uses Zigbee technology to wirelessly monitor and detect unauthorized power usage in real-time. It helps identify power theft quickly, ensuring accurate billing and reducing losses for utility providers. The efficient communication makes the monitoring process reliable and easy to manage.

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VTES37	Intellectual ZigBee supported Wireless Sensor Network for landslide supervision system	<b>Description:</b> This system uses Zigbee-supported wireless sensors to monitor landslide conditions in real-time. It provides timely alerts to help prevent damage and ensure safety in vulnerable areas
VTES38	Patient monitoring in WBAN based on ZigBee for energy optimization	<b>Description:</b> Wireless Body Area Networks (WBAN) using Zigbee technology enable continuous patient monitoring with low power consumption. This approach optimizes energy use while ensuring reliable health data transmission
VTES39	Design of wine cellar environment monitoring system based on ZigBee	<b>Description:</b> A Zigbee-based system monitors the environment inside a wine cellar to maintain optimal conditions. It efficiently tracks factors like temperature and humidity to preserve wine quality
VTES40	Low-energy ZigBee fire detection node: design and power performance analysis	<b>Description:</b> A low-energy Zigbee fire detection node is designed to efficiently sense and report fire hazards while minimizing power consumption. The system balances reliable detection with extended battery life through optimized energy use.
VTES41	Smart home security system	<b>Description :</b> A smart home security system integrates sensors and cameras to monitor and protect the home remotely. It provides real-time alerts and automated control for enhanced safety and convenience
VTES42	Hand gesture-controlled robotic Pick and Place Arm	<b>Description:</b> A hand gesture-controlled robotic pick and place arm uses sensor inputs to interpret hand movements for controlling the robot's actions. This enables intuitive, touchless operation for handling objects efficiently
VTES43	Design of sensor network with long distance communication for application in building energy management systems	<b>Description :</b> A sensor network with long-distance communication is designed to monitor and manage energy usage across large buildings. It enables real-time data transmission for efficient energy control and optimization
VTES44	Wireless sensor network-based train to train imparting system	<b>Description:</b> A wireless sensor network-based train-to-train imparting system enables real-time communication between trains to enhance safety and coordination. It ensures timely data exchange for collision avoidance and efficient train operations
VTES45	Design and implementation of a flexible wireless sensor network for environmental monitoring with in digital cities framework	<b>Description:</b> A flexible wireless sensor network is designed and implemented for real-time environmental monitoring within the digital cities framework. It supports scalable deployment and efficient data collection to enhance urban management.

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VTES46	Explosion risk detection system	<b>Description:</b> This system continuously monitors environmental parameters to identify conditions that could lead to an explosion. It provides early warnings to prevent accidents and ensure safety in hazardous areas
VTES47	Sensor networks for real-time air quality monitoring in smart cities	<b>Description:</b> This system uses interconnected sensors to monitor air quality in real time across urban areas. It helps smart cities manage pollution and improve public health through timely data
VTES48	Patient fall monitoring system using controller and Bluetooth	<b>Description:</b> A patient fall monitoring system uses a controller and Bluetooth to detect and alert caregivers of patient falls in real time. It enhances safety by enabling quick response through wireless communication
VTES49	Wearable gesture-to-speech translator for non-verbal communication	<b>Description:</b> A wearable gesture-to-speech translator converts hand gestures into audible speech to assist non-verbal individuals in communication. It uses sensors and a controller to detect movements and transmit speech output
VTES50	Smart power tracking and controlling system using GSM technology	<b>Description :</b> This system helps monitor and control electrical power usage remotely using GSM technology. It allows users to receive updates and manage power supply through mobile communication
VTES51	GSM based prepaid energy meter using Microcontroller and LDR sensor	<b>Description:</b> This system uses a microcontroller and LDR sensor to track energy usage and supports prepaid billing through GSM communication. Users can recharge and monitor their energy balance remotely via SMS
VTES52	GSM based vehicle anti-theft device using vibration sensor and microcontroller	<b>Description :</b> Project uses a vibration sensor to detect any unauthorized movement of a vehicle and alerts the owner via GSM communication. A microcontroller processes the sensor data and sends an SMS notification when suspicious activity is detected
VTES53	A GSM based wireless sensor network for real-time monitoring and control of agricultural parameters	<b>Description:</b> This system uses GSM technology and wireless sensors to monitor key agricultural parameters like soil moisture and temperature in real time. It helps farmers make informed decisions remotely, improving crop management and productivity
VTES54	RFID-GSM based intelligent cart for automated retail	<b>Description:</b> RFID tags track items placed in the cart, while GSM technology sends the bill directly to the user's phone. The system streamlines shopping by eliminating manual checkouts and reducing wait times.

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VTE55	Smart emergency management system using Raspberry Pi Pico, GPS and GSM modules	<b>Description:</b> Raspberry Pi Pico collects location data via GPS and sends emergency alerts through the GSM module. The system enables quick response by sharing real-time coordinates during critical situations	
VTE56	Smart bike security system with alcohol detection and GPS tracking	<b>Description:</b> Alcohol detection ensures the rider's safety by preventing bike ignition if intoxicated, while GPS tracking helps locate the bike in case of theft. The system enhances security and promotes responsible riding	
VTE57	Smart assistive stick with enhanced mobility and independence for the visually impaired using ultrasonic, GPS, and GSM technologies	<b>Description:</b> Ultrasonic sensors detect obstacles to guide visually impaired users, while GPS and GSM enable location tracking and emergency communication. The device improves mobility and independence for safer navigation	
VTE58	Smart glasses with voice assistance and GPS for independent mobility of the blind people	<b>Description:</b> Voice assistance provides real-time guidance, while GPS helps navigate routes independently. The smart glasses enhance mobility and confidence for visually impaired users	