| CODE | TITLE | APPLICATION / DESCRIPTION |
|---|---|---|
| VTIOT01 | Design and implementation of dual-function system for inventory management and safety: IoT based monitoring and gas detection | **Description :** This project combines inventory management and gas detection using IoT technology. It tracks stock levels in real time and monitors the environment for harmful gases. Alerts are sent instantly through IoT when low inventory or gas leakage is detected |
| VTIOT02 | Smart assistive stick with enhanced mobility and independence for the visually impaired using ultrasonic, GPS, and GSM technologies | **Description:** This project aims to help visually impaired individuals by using a smart assistive stick. It uses ultrasonic sensors to detect obstacles and GPS to track location. GSM technology sends alerts or location updates to caregivers in case of emergency |
| VTIOT03 | Trash tracker: IoT based garbage monitoring system using Raspberry Pico | **Description:** In this proposed system, the project uses IoT and Raspberry Pi to monitor garbage levels in bins. Ultrasonic sensors detect the fill level and send data in real time. Alerts are generated when bins are full, helping improve waste collection efficiency. |
| VTIOT04 | Next-gen energy meter with load control using controller | **Description**: This project introduces a smart Energy Meter with real-time monitoring and load control. It uses a Micr-ocontroller to measure power usage and manage connected loads. The system helps prevent overloads and improves energy efficiency through automation |
| VTIOT05 | An IoT based access control system using optical biometric sensor | **Description:** This proposed system uses an optical biometric sensor for secure access control. Fingerprint data is verified and access is granted only to authorized users. IoT integration allows remote monitoring and real-time alerts for enhanced security |
| VTIOT06 | Automatic Water Filling System And Water Quality Measurement | **Description:** This project automates water tank filling using level sensors and a Micro-controller. It also measures water quality parameters like pH and turbidity in real time. The system ensures efficient water usage and safe water quality monitoring |
| VTIOT07 | Solar based smart cropping defense system using IoT based on birds and animals | **Description:** In this proposed system uses solar power and IoT to protect crops from birds and animals. Sensors detect intrusions and activate deterrents like sound or light automatically. The system sends real-time alerts to farmers, ensuring smart and eco-friendly crop protection |
| VTIOT08 | Automatic garbage collector using sensors and internet of things | **Description :** This project automates garbage collection using sensors and IoT technology. Sensors detect the garbage level, and the system notifies authorities when bins are full. It helps improve cleanliness and efficiency in waste management operations |
| VTIOT09 | Smart cargo ship using controller and IoT | **Description:** A smart cargo ship uses IoT sensors and controllers to monitor and manage cargo conditions in real-time. It improves safety and efficiency by automating navigation and environmental controls. This technology helps reduce human error and optimize shipping operations. |

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| VTIOT10 | Solar powered smart glasses for smart navigation and object detection for visually impaired | **Description :** Solar-powered smart glasses help visually impaired people navigate safely using built-in object detection. The glasses use sensors and AI to identify obstacles and provide real-time guidance. Solar energy keeps the device charged for longer, making it eco-friendly and convenient. |
| VTIOT11 | Track sensing obstacle avoidance technology for autonomous vehicle | **Description:** Track sensing obstacle avoidance technology helps autonomous vehicles detect and avoid obstacles on their path. It uses sensors to monitor the surroundings and make real-time decisions for safe navigation. This improves vehicle safety and ensures smooth, accident-free driving |
| VTIOT12 | Detection of moving objects with ultrasonic radar | **Description:** This system uses ultrasonic radar to detect moving objects in its surroundings. It sends sound waves and measures their reflections to identify motion and distance. The technology is useful for security, automation, and collision prevention |
| VTIOT13 | Intelligent posture detection system for improved Ergonomics | **Description**: The intelligent posture detection system monitors a person's sitting or standing posture in real-time. It uses sensors and alerts to encourage proper ergonomics and reduce strain. This helps prevent posture-related health issues and improves comfort |
| VTIOT14 | Innovative home security systems: a comparative analysis of IoT-driven solutions | **Description:** This project compares different IoT-based home security systems to find the most effective solutions. It analyzes features like real-time alerts, remote access, and smart sensors. The goal is to identify innovative technologies that offer better safety and convenience for homeowners |
| VTIOT15 | Design and implementation of solar powered IoT based livestock fencing with repeller device for smart agriculture | **Description:** This project uses solar power and IoT to create a smart livestock fencing system with an animal repeller. It monitors fence activity and deters animals using automated alerts and signals. The system supports sustainable and efficient farming with minimal human effort |
| VTIOT16 | IoT enabled smart restroom and septic tank hygiene management system with odor control | **Description:** This IoT-enabled system monitors restroom and septic tank conditions in real-time for better hygiene management. It detects waste levels, leakage, and odors, and sends alerts for timely maintenance. The built-in odor control feature ensures a cleaner and more comfortable environment |
| VTIOT17 | Smart occupancy detection and activity recognition using RF transmissions | **Description :** This system uses RF (radio frequency) signals to detect human presence and recognize activities without cameras. It analyzes changes in signal patterns to identify motion and behavior. The technology enables smart automation, energy saving, and enhanced security |
| VTIOT18 | Affordable IoT security: A Raspberry Pico system for attendance and intruder detection | **Description:** This affordable IoT-based system uses a Raspberry Pi to track attendance and detect intruders in real-time. It uses sensors and cameras to identify individuals and send alerts when needed. The solution offers low-cost, efficient security and monitoring for homes or institutions |

| CODE | TITLE | APPLICATION / DESCRIPTION |
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| VTIOT19 | Real time monitoring of bridge by using sensor technology with concentration on deflection identification | **Description:** This project uses sensor technology to monitor bridges in real time, focusing on detecting structural deflections. Sensors measure stress, vibration, and movement to identify potential issues early. It helps improve bridge safety, maintenance, and overall structural health monitoring. |
| VTIOT20 | Enhanced environmental monitoring system with fire detection and hazard mitigation through sensor technology | **Description:** This system uses advanced sensors to monitor environmental conditions and detect fires in real time. It quickly identifies hazards like smoke, heat, or gas leaks and triggers alerts or mitigation actions. The goal is to enhance safety and reduce damage through early warning and response |
| VTIOT21 | Real-time parking slot detection and enhanced security system for public parking using IoT | **Description:** This IoT-based system detects available parking slots in real time and guides drivers accordingly. It also includes security features like surveillance and intrusion alerts for public parking areas. The solution aims to reduce parking hassle and improve vehicle safety |
| VTIOT22 | Enhancing rail safety with automated crack detection and smart guard system | **Description**: This system enhances rail safety by using sensors to automatically detect cracks on railway tracks. It also includes a smart guard system to alert authorities and prevent accidents. The solution ensures timely maintenance and safer train operations |
| VTIOT23 | Smart safety system for driver and passenger protection | **Description:** This smart safety system monitors driver and passenger conditions to prevent accidents and injuries. It uses sensors to detect drowsiness, seatbelt use, and sudden impacts. The system provides real-time alerts and safety measures to protect everyone inside the vehicle |
| VTIOT24 | Patient Monitoring System | **Description:** This system monitors patients' vital signs like heart rate and temperature in real time. It collects and displays data for easy tracking by healthcare providers. The system helps improve patient care through continuous and accurate monitoring |
| VTIOT25 | IoT device for food storage | **Description:** This IoT device monitors food storage conditions like temperature, humidity, and spoilage in real time. It sends alerts if conditions go beyond safe limits to prevent food waste. The system helps maintain freshness and safety in kitchens, stores, or warehouses |
| VTIOT26 | Sensor based environmental control system for efficient nursery management | **Description :** This sensor-based system monitors and controls environmental factors like temperature, humidity, and light in plant nurseries. It ensures optimal growing conditions for healthy plant development. The system supports efficient and automated nursery management with minimal manual effort |
| VTIOT27 | In-home healthcare station using Raspberry Pi Pico | **Description:** This in-home healthcare station uses a Raspberry Pi Pico to monitor vital signs like heart rate and temperature. It provides real-time health data and alerts for early detection of issues. The system offers a low-cost, convenient solution for personal health monitoring at home |

| CODE | TITLE | APPLICATION / DESCRIPTION |
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| VTIOT28 | Design and implementation of a low-cost IoT based smart agricultural system using Raspberry Pi Pico | **Description:** This project designs a low-cost smart agricultural system using Raspberry Pi Pico and IoT technology. It monitors soil moisture, temperature, and other factors to optimize crop growth. The system helps farmers improve efficiency and reduce manual work. |
| VTIOT29 | IoT based safety monitoring system for coal mining workers | **Description:** This IoT-based system to monitor safety conditions for coal mining workers in real time. It tracks environmental hazards like gas levels and worker location underground. The system helps prevent accidents and ensures quick emergency response |
| VTIOT30 | Smart battery swapping and safety management system | **Description:** This smart system automates battery swapping for electric vehicles to save time and effort. It includes safety features to monitor battery health and prevent hazards. The solution ensures efficient, quick, and safe battery management |
| VTIOT31 | Remote controlled IoT- driven boat for real-time aquatic environment monitoring | **Description**: This IoT-driven remote-controlled boat monitors aquatic environments in real time using sensors. It collects data on water quality, temperature, and pollution levels. The system helps researchers track and protect water bodies efficiently and safely |
| VTIOT32 | Ecoharvest: Integrating IoT technology for sustainable soil and air management in agriculture | **Description:** EcoHarvest uses IoT technology to monitor and manage soil and air quality in agriculture. It collects real-time data to optimize resource use and reduce environmental impact. The system promotes sustainable farming for healthier crops and ecosystems |
| VTIOT33 | Multi-functional anti-theft alarm system | **Description:** This multi-functional anti-theft alarm system detects unauthorized access using sensors and alerts. It can protect homes, vehicles, or valuables with real-time notifications. The system enhances security by preventing theft and ensuring quick response |
| VTIOT34 | Empowering precision agriculture: a comprehensive real-time monitoring and decision support system for farmers | **Description:** This system provides real-time monitoring of farm conditions using sensors and data analysis. It helps farmers make precise decisions on watering, fertilizing, and pest control. The technology improves crop yield, saves resources, and supports sustainable farming |
| VTIOT35 | Design and development of smart monitoring system for reducing early chicken mortality | **Description :** This smart monitoring system tracks the health and environment of young chickens in real time. It detects issues like temperature changes or illness early to prevent mortality. The system helps farmers improve chicken survival rates and overall poultry health |
| VTIOT36 | IoT based air quality monitoring and air purifier system | **Description:** This IoT-based system monitors air quality in real time using sensors. It automatically activates an air purifier when pollution levels rise. The system helps maintain clean and healthy indoor air for better living environments |

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| VTIOT37 | Disaster track: real-time monitoring and instant alerts for emergency response | **Description:** Disaster Track monitors natural disasters in real time using sensors and data analysis. It sends instant alerts to authorities and the public for quick emergency response. The system helps save lives and reduce damage by improving preparedness |
| VTIOT38 | Real-time health monitoring and tracking system | **Description:** This system monitors vital health signs like heart rate and temperature in real time. It tracks patient data continuously and sends alerts if abnormalities are detected. The technology supports timely medical care and improved health management |
| VTIOT39 | Enhancing IoT-driven smart home security and automation | **Description:** This project enhances smart home security and automation using IoT devices. It integrates sensors, and smart controls for real-time monitoring and remote management. The system improves safety, convenience, and energy efficiency for homeowners |
| VTIOT40 | Calmnest: IoT based smart cradle using controller BLE sense | **Description**: CalmNest is an IoT-based smart cradle that uses a controller with BLE Sense for monitoring. It tracks the baby's movements and environment to ensure comfort and safety. The system provides real-time alerts and soothing features for better baby care |
| VTIOT41 | Empowering agriculture with real-time IoT monitoring | **Description:** This project uses IoT technology to provide real-time monitoring of agricultural fields. It tracks soil, weather, and crop conditions to help farmers make informed decisions. The system boosts productivity and promotes sustainable farming practices |
| VTIOT42 | Digital twin-based smart building management system | **Description:** This system uses digital twin technology to create a virtual model of a building for real-time monitoring and management. It tracks energy use, temperature, and security to optimize building operations. The solution improves efficiency, reduces costs, and enhances occupant comfort |
| VTIOT43 | Design and implementation of an IoT based energy-efficient user-friendly smart home automation system for energy savings and maximizing comfort | **Description:** This IoT-based smart home automation system focuses on saving energy while maximizing comfort. It allows users to control appliances and monitor energy use remotely. The system improves efficiency and reduces utility costs through intelligent automation |
| VTIOT44 | IoT-based home automation: augmented reality enabled plant watering system | **Description :** This IoT-based home automation system uses augmented reality to help water plants easily and accurately. It monitors soil moisture and sends alerts when plants need watering. The system combines smart technology and AR for a fun and efficient gardening experience |
| VTIOT45 | Smart automated zebra crossing system using PIR sensors, IoT integration, and camera-based headcount for enhanced road safety | **Description:** This smart zebra crossing system uses PIR sensors and IoT to detect pedestrians and manage crossing signals. A camera counts people to optimize crossing time and improve safety. The system enhances road safety by reducing accidents and managing traffic efficiently. |

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| VTIOT46 | IoT based fire and motion detection system | **Description:** This IoT-based system detects fire and motion using temperature and motion sensors. It sends real-time alerts to users and emergency services for quick response. The system enhances safety by enabling early detection and rapid action |
| VTIOT47 | Wireless human detection system with PIR sensor and instant alerts via GSM | **Description:** This wireless system uses a PIR sensor to detect human movement in restricted areas. It sends instant alerts via GSM to notify users of any intrusion. The setup enhances security with real-time monitoring and quick response |
| VTIOT48 | Advanced train detection and gate control system using controller and passive infrared motion sensor | **Description:** This system uses a controller and passive infrared (PIR) motion sensors to detect approaching trains. It automates railway gate operations to prevent accidents and ensure safety. The solution provides real-time monitoring and efficient train crossing management |
| VTIOT49 | IoT based smart home automation using Micro-controller | **Description:** This IoT based smart home system uses a Micro-controller to automate and control home appliances remotely. It enables users to monitor and manage devices like lights, fans, and security systems via smart phone or internet. The system enhances convenience, energy efficiency, and home security |
| VTIOT50 | IoT based bird repelling system | **Description:** This IoT-based bird repelling system detects bird activity in fields or sensitive areas using sensors. It activates sound or light-based deterrents to scare birds away without harm. The system helps protect crops and equipment efficiently and sustainably |
| VTIOT51 | Low-cost multi-functional assistive device for visually impaired individuals | **Description:** This low-cost assistive device helps visually impaired individuals navigate their surroundings safely. It includes features like obstacle detection, voice assistance, and emergency alerts. The device enhances mobility, independence, and daily life convenience |
| VTIOT52 | A real-time vision transformers-based system for enhanced driver drowsiness detection and vehicle safety | **Description:** This system uses real-time vision transformers to accurately detect driver drowsiness through movement analysis. It triggers alerts to prevent accidents and ensure road safety. The advanced model enhances reliability and responsiveness for safer driving |
| VTIOT53 | A smart web-based power quality and energy monitoring system with enhanced features | **Description :** This smart web-based system monitors power quality and energy usage in real time. It provides enhanced features like voltage fluctuation alerts, energy analytics, and remote access. The system helps improve energy efficiency, reduce costs, and ensure stable power supply. |
| VTIOT54 | Eco-friendly IoT: leveraging energy harvesting for a sustainable future | **Description:** This project explores eco-friendly IoT systems powered by energy harvesting technologies like solar and thermal. It reduces dependence on batteries and supports long-term, sustainable device operation. The solution promotes greener technology for a more sustainable future. |

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| VTIOT55 | Design of wearable intelligent pulse detection system based on flexible sensors | **Description:** This wearable system uses flexible sensors to detect pulse signals accurately in real time. It offers continuous health monitoring with a comfortable and lightweight design. The system supports early detection of irregularities for better personal healthcare |
| VTIOT56 | Greenhouse environment monitoring using Raspberry Pico | **Description:** This system uses Raspberry Pi Pico to monitor greenhouse conditions like temperature, humidity, and soil moisture. It helps maintain an ideal environment for plant growth through real-time data collection. The solution supports efficient and smart greenhouse management |
| VTIOT57 | IRRISMART - an IoT testbed for a resilient smart indoor irrigation system | **Description:** IRRISMART is an IoT-based testbed designed for smart and resilient indoor irrigation. It monitors soil moisture and environmental conditions to automate watering precisely. The system ensures efficient water use and supports healthy plant growth indoors |
| VTIOT58 | IoT-based household equipment control system using laser-LDR pair | **Description**: This IoT-based system controls household equipment using a laser and LDR (Light Dependent Resistor) sensor pair. It detects interruptions in the laser beam to trigger device actions. The setup offers a touch-free, efficient way to manage home appliances |
| VTIOT59 | IoT-based home automation for LPG gas and fire detection system with automated safety measures | **Description:** This IoT-based home automation system detects LPG gas leaks and fire using integrated sensors. It triggers automated safety measures like alarms, ventilation, and alert notifications. The system enhances home safety by enabling quick response to hazardous situations |
| VTIOT60 | Advanced air quality monitoring system using IoT and sensor technology | **Description:** This advanced system uses IoT and sensor technology to monitor air quality in real time. It detects pollutants like GAS and toxic gases, providing instant alerts. The system helps improve health and environmental awareness through accurate data |
| VTIOT61 | Integrating a spore germination sensor with continuous wavelet transform for detecting orchid diseases in greenhouses | **Description:** This system integrates a spore germination sensor with continuous wavelet transform (CWT) to detect orchid diseases early in greenhouses. It analyzes sensor data to identify fungal activity and issue timely alerts. The solution supports healthier plant growth and efficient disease management |
| VTIOT62 | Experimental analysis using IoT-based smart power quality analyzer system with remote data access and gsm alerting mechanism | **Description :** This IoT-based smart power quality analyzer monitors voltage, current, and power anomalies in real time. It features remote data access and sends GSM alerts for immediate issue notification. The system helps ensure reliable power supply and supports preventive maintenance |
| VTIOT63 | Low-cost system for continuous monitoring in cattle: enhancing agricultural sustainability | **Description:** This low-cost system enables continuous monitoring of cattle health and movement in real time. It transmits data over long ranges with minimal power consumption. The solution supports sustainable agriculture by improving livestock care and farm efficiency |

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| VTIOT64 | A convolutional transformer network for anomaly detection in Wireless Body Area Networks | **Description:** This system uses a Convolutional Transformer Network to detect anomalies in Wireless Body Area Networks (WBANs). It analyzes health data patterns to identify irregularities in real time. The approach enhances accuracy, security, and reliability in health monitoring systems |
| VTIOT65 | Traffic monitoring and control system for smart city pollution regulation using IoT and correlated capsule networks | **Description:** This system uses IoT and Correlated Capsule Networks to monitor and control traffic flow in smart cities. It tracks vehicle density and pollution levels to optimize traffic signals and reduce emissions. The solution supports smarter, cleaner urban transportation management |
| VTIOT66 | Remote monitoring system of patient status in social IoT environments using technologies and smart health care | **Description:** This remote monitoring system uses social IoT technologies to track patient health status in real time. It collects and shares vital data with healthcare providers for timely care. The system improves patient management and supports smart healthcare solutions |
| VTIOT67 | A real-time air quality monitoring architecture for smart campus | **Description**: This project uses a real-time air quality monitoring system for smart campuses. It manages sensor data efficiently to provide accurate, timely pollution readings. The system helps maintain a healthy campus environment through continuous monitoring and alerts |
| VTIOT68 | An ensemble formal approach to improve energy efficiency and data aggregation in smart agriculture | **Description:** This approach uses ensemble formal methods to enhance energy efficiency and data aggregation in smart agriculture systems. It optimizes sensor networks to reduce power consumption while improving data accuracy. The solution supports sustainable farming through smarter resource management |
| VTIOT69 | IoT-based indoor air quality management system for intelligent education environments | **Description:** This IoT-based system monitors indoor air quality in educational environments in real time. It tracks pollutants like, humidity to ensure healthy learning spaces. The system helps improve student well-being and academic performance through better air management |
| VTIOT70 | IoT-enabled adaptive watering system with ARIMA-based soil moisture prediction for smart agriculture | **Description:** This IoT-enabled watering system uses ARIMA models to predict soil moisture levels accurately. It adapts irrigation schedules based on real-time data and forecasts. The system optimizes water usage, promoting efficient and sustainable agriculture |
| VTIOT71 | Fire weather index (FWI) systems and IoT applications in peatland fire management | **Description :** This reviews Fire Weather Index (FWI) systems and their integration with IoT for peatland fire management. It explores how IoT sensors improve fire risk detection and monitoring. The study highlights advance in preventing and controlling peatland fires effectively |
| VTIOT72 | Feasibility study of location authentication for IoT data using power grid signatures | **Description:** This study explores using power grid signatures to authenticate the location of IoT data sources. It aims to improve security by verifying where data originates. The approach enhances trust and reliability in IoT networks |

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| VTIOT73 | Obstacle detection and warning system for visually impaired using IoT sensors | **Description:** This IoT-based system detects obstacles for visually impaired individuals using sensors. It provides real-time warnings through audio or vibrations to help safe navigation. The system enhances mobility and independence by preventing accidents |
| VTIOT74 | IoT and GSM-based real-time monitoring system for protection of endangered trees against illegal cutting and smuggling | **Description:** This project uses IoT sensors and a GSM module to monitor endangered trees in real-time. It detects unauthorized cutting or movement and sends instant alerts to authorities. The system helps prevent illegal logging and supports forest conservation efforts |
| VTIOT75 | An improved design of wearable sensors assisted personal health monitoring device based on IoT technology | **Description:** This system uses wearable sensors with IoT technology to monitor health conditions in real-time. It helps in remote tracking and early detection of health issues |