



PANIMALAR ENGINEERING COLLEGE

An Autonomous Institution

[JAISAKTHI EDUCATIONAL TRUST]

Approved by AICTE | Affiliated to Anna University | Recognized by UGC

All Eligible UG Programs are Accredited by NBA

Bangalore Trunk Road, Varadharajapuram, Poonamallee, Chennai- 600 123

TECHDIVATHON

Empower, Innovate, Elevate: Code the Future Together

Domain: TECHNOLOGY

Problem Statements:

Sno	Title	Problem Statement	Description
1	IoT-Based Smart Waste Bin	Inefficient waste management leads to overflowing bins and poor recycling practices.	Segregates waste automatically and tracks fill levels, notifying authorities for timely collection.
2	AI-Powered Gesture Control System	Traditional control methods are less intuitive for smart devices.	Allows users to control devices with hand gestures, providing a seamless and touchless experience.
3	Wearable Device for Activity Monitoring	Tracking physical activities manually is time-consuming and inaccurate.	Monitors activities like steps, sleep, and heart rate using sensors, promoting a healthy lifestyle.
4	Voice-Controlled Smart Home Hub	Managing multiple smart home devices can be cumbersome without integration.	Centralizes smart home device control via voice commands for convenience and efficiency.
5	Smart Electric Meter	Users lack real-time visibility of their energy consumption.	Tracks energy usage and transmits data to users, enabling better energy management and cost savings.
6	Portable Air Quality Monitor	Poor indoor air quality often goes unnoticed, affecting health.	Measures air quality parameters and suggests improvements for a healthier living environment.
7	Compact 3D Printer for Beginners	Advanced 3D printers are expensive and complex for novice users.	Provides an affordable and easy-to-use solution for students and hobbyists to explore 3D printing.
8	IoT-Enabled Smart Plant Pot	Monitoring plant health manually is inconsistent and prone to oversight.	Tracks soil moisture levels and alerts users to water plants, simplifying plant care.
9	Solar-Powered Portable Charger	Charging small electronics in remote areas is often challenging.	Utilizes solar energy to charge devices, promoting sustainable and portable power solutions.
10	Low-Cost AI Camera for Beginners	AI-powered devices are often inaccessible due to high costs.	Detects objects and faces for basic AI tasks, offering an affordable solution for learning and experimentation.
11	AI-Based Job Matching Platform	Job seekers and employers struggle with finding the right matches efficiently.	Matches candidates to jobs based on their skills and preferences, simplifying recruitment processes.

12	AR-Powered Virtual Interior Designer	Visualizing furniture placement before purchase is difficult and risky.	Allows users to visualize furniture in real spaces through augmented reality, enhancing decision-making.
13	Smart Budget Management App	Managing personal finances effectively is challenging without proper tools.	Tracks expenses, categorizes spending, and provides savings tips to help users manage budgets.
14	Disaster Response Simulation Tool	Effective disaster resource allocation requires advanced predictive tools.	Uses AI to simulate disaster scenarios and generate optimal resource allocation strategies.
15	Blockchain-Based Voting System	Traditional voting systems are susceptible to fraud and lack transparency.	Ensures secure, transparent, and tamper-proof elections using blockchain technology.
16	AI-Driven Study Planner App	Students struggle to create effective study schedules.	Generates personalized study plans based on a student's syllabus, time availability, and goals.
17	Virtual Reality Travel App	Experiencing global destinations physically can be expensive and inaccessible.	Offers immersive virtual tours of famous destinations, making travel experiences accessible to all.
18	Smart Shopping Assistant	Finding products that match user preferences in crowded markets is overwhelming.	Recommends products based on user preferences and purchase history, simplifying shopping experiences.
19	AI-Powered Personal Health Assistant	People often fail to recognize potential health risks early on.	Analyzes user data to predict health risks and suggests preventive measures for better well-being.
20	Secure Online Payment Portal	Online transactions are prone to security breaches.	Simplifies and secures transactions using encryption and fraud detection mechanisms.
21	Smart Waste Segregation Kiosk	Recycling practices are hindered by inefficient waste segregation systems.	Combines sensors with an app to sort waste and encourage recycling through real-time tracking.
22	AI-Powered Study Buddy Robot	Students need interactive and engaging ways to enhance learning.	A robot that helps students learn through AI-powered interactive sessions and personalized assistance.
23	IoT-Based Energy Optimization System	Households lack tools to monitor and optimize energy consumption effectively.	Tracks power usage and optimizes energy consumption using IoT sensors and analytics.
24	VR Training Simulator for Safety	Safety training is often theoretical and lacks real-world engagement.	Educates users on safety practices using immersive virtual reality simulations.
25	AI-Integrated Delivery Drone	Traditional delivery systems are inefficient and prone to delays.	Uses AI to optimize delivery routes and avoid obstacles, ensuring fast and efficient deliveries.