

CARE HACK'26 (AI – HACKATHON)

PROBLEM STATEMENTS

THEME: AI

PS_ID	Problem Statements
AI01	AI-powered energy management system to optimize energy consumption in industrial and commercial facilities with real-time analytics
AI02	AI-enabled system for real-time conversion of speech to sign language using animated avatars.
AI03	AI-based risk prediction for clinical cases and remote patient monitoring with outpatient management application
AI04	Online faceless registration system with video consent verification, digital signature authentication, or AI-based sentiment analysis for documents to be registered at registration office

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AI05	AI-powered traffic management system to track driving violations such as riders without helmets, seatbelts and issuing challans for violations
AI06	AI – Based waste sorting at source – AI powered waste segregation systems to improve recycling efficiency.
AI07	Textile Waste Disposal & Recycling System – AI enabled system encouraging responsible textile waste disposal and recycling.
AI08	AI for Equipment Failure Detection: Design a system that detects early signs of equipment issues in factories.
AI09	AI-Based Sign Language Translator: Design a system that translates sign language using AI.
AI10	Post – Harvest Value Chain Optimization - AI solutions to reduce food loss and improve storage, preservation, and value addition.

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AI11	Develop an integrated solution to predict and monitor erosion-prone zones for shelter belt plantations by leveraging GIS-based tools, remote sensing and AI.
AI12	Aquaculture water quality & Disease Monitoring - Affordable AI/IoT solutions for aquatic health, disease prediction, and farmer income.
AI13	Rider vital monitoring for enhancing safety - Wearable AI systems to monitor rider vitals and prevent accidents
AI14	Tool to automatically stop the transfer of social security funds to deceased beneficiaries by integration with death registration databases, Aadhaar authentication, or periodic life certification
AI15	GIS-based solution for automating the approximate assessment of property tax

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THEME: IoT

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IoT01	Automate rural water supply systems with IoT-based controls, smart metering, and real-time monitoring of tank levels and water quality
IoT02	IoT-based self-sustained autonomous solution for the maintenance of public toilets
IoT03	Seamless Ticketing Without Apps IoT-based ticketing for universal access without apps/cards Universal access and seamless ticketing system compatible with Chennai's operating conditions, eliminating the need for smartphones or physical cards.
IoT04	Portable Water Quality Tester: Design a device for testing water quality, especially in rural areas.
IoT05	IoT/software-based affordable solutions focused on optimal water quality management, hatchery practices, feeding management, disease monitoring, aquatic health monitoring,

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	biomass estimation, and farm energy use etc.,
IoT06	Noise Pollution Monitoring Network: Create a low-cost IoT network to track city noise pollution.
IoT07	Smart Parking Solution: Create an IoT sensor-based parking system to reduce city congestion
IoT08	Smart Traffic Management: Develop a traffic system using AI and IoT to manage city roads.
IoT09	Automated Vertical Farming System: Create an automated system for vertical farming in cities.
IoT10	Automated Waste Sorting System: Create a sorting system with computer vision and robotics for waste management.
IoT11	Smart Irrigation System: Develop a system using soil moisture sensors and weather data to

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	save water in urban farming.
IoT12	Smart Water Supply Measurement and Monitoring System for Over Head Tanks (OHTs).
IoT13	GPS-based tracking system for government buses with real-time monitoring such as arrival updates, seat availability, and route information (starting and ending points) by passengers
IoT14	Develop an integrated solution to predict and monitor erosion-prone zones for shelter belt plantations by leveraging GIS-based tools, remote sensing and AI.
IoT15	Cost-effective device to remotely operate heavy-duty motors at water pumping stations, monitor water levels in overhead tanks (OHT)
IoT16	Design an effective safety mechanism using proximity sensors with alarm systems to prevent children from falling into uncovered borewell holes/ open drainage pits
IoT17	Robotic boats to efficiently collect plastic waste in river/marine ecosystems and integrate

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	anti-pollutant technologies
IoT18	Drone-Based Forest Fire Detection: Create a drone system to spot and monitor forest fires.
IoT19	Solar-Powered Desalination System: Create a desalination system powered by solar energy for coastal areas.
IoT20	Solution to identify water leakage, detect unauthorized connections, prevent illegal water siphoning through motors, and monitor pressure levels at the tail end of the water supply distribution.

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THEME: Health Tech

PS_ID	Problem Statements
HT01	Design an accessible platform for visually and hearing-impaired students, integrating sign language and visual aids
HT02	Automated drug dispenser in pharmacy at hospitals during peak outpatient hours.
HT03	A centralized digital platform to connect all PHCs, Upgraded PHCs, and Sub Centers with the Deputy Director of Health Services (DDHS) to enable real-time monitoring of doctor attendance, healthcare services, and automated absenteeism alerts to improve healthcare delivery
HT04	Monitor the availability, utilization, and weekly requirements of medicines in dispensaries, hospitals, clinician centers and polyclinics
HT05	Monitoring of Government hospital operations and provide real-time data on all aspects of

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	patients admitted in the hospital and outpatient.
HT06	Wearable for Cardiovascular Monitoring: Develop a wearable device to detect early heart issues.
HT07	Platform to provide virtual counselling services, gamified activities, knowledge on legal rights and safety for children and women
HT08	Bright Medication Reminder: Develop a reminder system for elderly care to track and manage medications.
HT09	Low-Cost Prosthetic Limb with 3D Printing: Design a budget-friendly prosthetic limb using 3D printing.
HT10	Low-Cost Air Purification for Classrooms: Design an affordable air purifier for school classrooms.
HT11	Design a puncture-proof, abrasion-resistant water or air-filled bag capable of supporting

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	more than 100 kg of animal weight to help elevate downer or pregnant animals, facilitate recovery, and improve their mobility.
HT12	Device for automatic regulation of temperature in poultry farms by maintaining an optimal 35°C to prevent heat stress, reduce manual water spraying.
HT13	Technology to manage and reduce the accumulation of poultry litter, foul smells and fly infestations.