



ACROPOLIS
Enlightening Wisdom



AITR ACM
Student Chapter



◀ प्रयत्न 2.0 ▶

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Problem Statements
2025

Web Development

1. Fire Department Application Monitoring & Automation

Develop a real-time monitoring and automation system for fire department applications, including inspections, follow-ups, and NOC issuance, to eliminate manual intervention, ensure timely processing, and enhance compliance through automated tracking, notifications, and data-driven decision-making.

2. Smart Voyage Optimization for the Ocean

Develop a real-time route optimization system for ships in the Ocean, considering fuel efficiency, weather conditions, safety, and voyage time. The system should dynamically adjust routes based on real-time oceanic and meteorological data, improving sustainability and operational efficiency in the shipping industry.

App Development

1. Cultural Experience Planner

Build a travel app that creates personalized itineraries based on cultural interests. Include local guide connections, language assistance, and cultural etiquette tips.

2. Education app

High student dropout rates in India, especially among marginalized communities, stem from socio-economic and educational challenges. This solution leverages app to identify at-risk students, provide personalized support, and enhance community engagement, aligning with NEP 2020's goal of improving student retention and ensuring equitable education. The solution also make it inclusive for socio-economical background and others.

Cybersecurity

1. Combating Cyber Threats with AI-Driven Security Measures

With the increasing reliance on digital platforms, cybercriminals are exploiting weak passwords, phishing attacks, and data breaches to gain unauthorized access to sensitive information. Users often reuse passwords or fall victim to sophisticated social engineering tactics, compromising personal and financial security. An AI-powered cybersecurity solution is needed to provide real-time phishing detection, enforce strong authentication measures, and educate users on potential threats, ensuring better digital safety and privacy.

2. Defense Against Deepfake Impersonation in Video Calls

Cybercriminals are using deepfake technology to impersonate police officers, judges, and officials on video calls, deceiving victims into sharing sensitive information or making fraudulent transactions. Existing security measures struggle to detect these advanced scams in real time. An AI-driven cybersecurity solution is needed to authenticate video calls, detect deepfakes, and alert users, preventing digital identity theft and financial fraud.

Artificial Intelligence

1. Digital Meter Reading System for Industrial Monitoring

Industrial operations rely heavily on the accurate and timely monitoring of various gauges and meters, such as temperature, pressure, flow rate, and voltage. Manual reading of these meters is time-consuming, prone to human error, and inefficient in responding to abnormal or panic situations. Delayed responses to critical readings can lead to safety hazards, equipment damage, and financial losses.

2. AI Based Smart Parking System for Societies

In modern residential societies, managing vehicle entry and exit is a significant challenge. The lack of an efficient system often leads to unauthorized access, security breaches, and parking mismanagement. Manual verification at gates increases waiting times and is prone to human error, compromising both convenience and security.

Blockchain

1. Decentralized Resume Verification System

Many job applicants face issues with fake credentials and unverifiable work experience. This leads to hiring inefficiencies, increased recruitment costs, and potential workplace risks. A secure and transparent verification system can help employers validate credentials efficiently.

2. Web3-Based Digital Identity for Students

Students often struggle to maintain a secure, single-source academic identity across institutions. Traditional systems lack interoperability, making it difficult to verify credentials seamlessly. A decentralized approach can ensure authenticity, privacy, and easy access to academic records.

Machine Learning

1. AI-Enabled Public Service Complaint Analysis and Routing

Develop an efficient platform that aggregates and analyzes citizen complaints from government portals, social media, and community forums to identify and prioritize local issues. Leverage natural language processing and clustering techniques on easily accessible data—sourced through APIs or web scraping—to classify problems and route them to the relevant authorities.

2. Cultural Heritage Digitization and Preservation

Build an AI-driven system utilizing AR/VR to aid the digitization and preservation of India's rich cultural heritage. The project should collect and analyze data from historical records, social media, and public databases using image recognition and text mining techniques. With data sourced via APIs and web scraping, design an interactive digital archive or map that catalogues heritage sites