

PROBLEM STATEMENT NUMBER	PROBLEM STATEMENTS	DESCRIPTION	THEME	DOMAIN	SDG
1	Automatic Energy Saving System: Develop an automated system to detect faults in street lighting, such as non-functioning lights or current leakage, and address them promptly to enhance energy efficiency and public safety.	Street lighting is essential for public safety and urban infrastructure, but inefficiencies such as non-functioning lights, current leakage, and energy wastage are common issues in traditional systems. These problems not only increase energy consumption but also compromise safety and maintenance efforts. To address this, there is a need for an Automatic Energy Saving System that leverages IoT sensors, real-time monitoring, and AI-based fault detection algorithms. The system will continuously monitor streetlights to identify faults like malfunctioning bulbs, power irregularities, or current leakage. Upon detection, it will automatically alert maintenance teams or trigger corrective actions, such as rerouting power or isolating faulty units. By ensuring prompt fault resolution and optimizing energy usage, this system will enhance energy efficiency, reduce operational costs, and improve public safety. The solution will also provide data analytics for predictive maintenance, further reducing downtime and resource wastage.	Energy and Power transmission	Hardware	SDG 7: Affordable and Clean Energy
2	Enhancing Car Sharing Accessibility in Urban Areas: Develop a user-centric solution to make car-sharing more accessible and convenient for urban commuters, reducing reliance on personal vehicles, easing parking congestion, and minimizing environmental impact. The solution should address current challenges such as limited availability, complex booking processes, and user trust. Additionally, incorporate a shared car parking feature, allowing users to rent out their unused parking spaces to those in need, optimizing urban parking resources and supporting the growth of car-sharing networks	Urban commuters face significant challenges in accessing convenient and reliable car-sharing services due to limited vehicle availability, complex booking systems, and concerns about trust and security. These barriers discourage adoption, leading to continued reliance on personal vehicles, contributing to traffic congestion, parking shortages, and environmental pollution. Additionally, inefficient use of urban parking spaces further exacerbates these issues. There is a need for a user-centric solution that simplifies car-sharing access, enhances user trust, and integrates a shared parking feature, allowing individuals to rent out unused parking spots. This approach will optimize urban mobility, reduce congestion, and promote sustainable transportation solutions.	Application Development	Software	SDG 9: Industry, Innovation, and Infrastructure
3	Personalized E-Learning Platform Develop an AI-driven platform that adapts educational content to individual learning styles and paces, enhancing student engagement and comprehension.	Traditional e-learning platforms follow a one-size-fits-all approach, which often fails to cater to the diverse learning styles, paces, and needs of individual students. This lack of personalization leads to disengagement, ineffective learning, and knowledge gaps. Additionally, students struggle with varying levels of comprehension, requiring tailored support to optimize their learning experience. To address these challenges, an AI-driven personalized e-learning platform is needed to dynamically adapt content, provide real-time feedback, and offer customized learning pathways. This solution will enhance student engagement, improve comprehension, and ensure an effective, learner-centric educational experience.	AI	Software	SDG 9: Industry, Innovation, and Infrastructure
4	Design products or platforms that combat social isolation and promote mental well-being, such as virtual companionship tools, community engagement platforms, or cognitive stimulation devices.	Social isolation and loneliness are growing concerns, negatively impacting mental well-being and overall quality of life. Many individuals, including the elderly, remote workers, and people with disabilities, struggle to maintain meaningful social connections due to physical distance, limited mobility, or lack of community engagement opportunities. Traditional solutions often fail to provide personalized, interactive, and easily accessible support. To address these challenges, innovative products or platforms are needed to foster social interaction, provide virtual companionship, and enhance mental stimulation. By leveraging AI, digital communities, and interactive tools, these solutions can combat loneliness, improve emotional well-being, and create a sense of belonging.	misc	Hardware	SDG 3: Good Health and Well-being
5	Empowering the Delivery Workforce: Design products that support the physical and mental health of delivery workers, such as ergonomic gear to reduce strain, fitness trackers, or mental health apps that offer stress management and support	Delivery workers face significant physical and mental health challenges due to long working hours, strenuous tasks, and high-pressure environments. Prolonged riding, lifting, and repetitive movements lead to musculoskeletal strain, while job-related stress, irregular schedules, and job insecurity impact mental well-being. Existing solutions often fail to provide holistic support tailored to their unique needs. To address these issues, innovative products are needed, such as ergonomic gear to reduce physical strain, fitness trackers to monitor health, and mental health apps offering stress management and emotional support. This solution will enhance the well-being, productivity, and overall quality of life for delivery workers.	IoT	Hardware	SDG 9: Industry, Innovation, and Infrastructure
6	Smart Receptionist with Smart Lock System: Design a system that integrates a virtual receptionist with a smart lock, allowing homeowners to remotely manage visitor access through authentication and scheduling.	Traditional home security systems and visitor management methods often lack efficiency, convenience, and real-time control. Homeowners face challenges in managing visitor access, especially when they are away, leading to security concerns and missed deliveries or appointments. Conventional lock-and-key systems are vulnerable to unauthorized access, while physical receptionists or intercom-based solutions can be inconvenient. To address these issues, a smart receptionist with an integrated smart lock system is needed. This solution will enable homeowners to authenticate visitors, schedule access remotely, and enhance security through AI-driven verification and real-time monitoring, ensuring both safety and convenience.	IoT	Hardware	Uncategorized

7	Smart Firefighting Helmet with Thermal Imaging "Create a helmet that provides firefighters with real-time thermal imaging and environmental data, enhancing situational awareness in hazardous conditions."	Firefighters often face extreme environments with poor visibility, high temperatures, and unpredictable hazards, making it difficult to locate victims, navigate safely, and assess fire intensity. Traditional firefighting gear lacks real-time situational awareness tools, increasing the risk of injury and reducing operational efficiency. To address these challenges, a smart firefighting helmet with integrated thermal imaging and environmental sensors is needed. This helmet will provide real-time heat signatures, smoke penetration visibility, and crucial environmental data, enabling firefighters to make informed decisions, improve rescue operations, and enhance overall safety in hazardous conditions.	Embedded	Hardware	Uncategorized
8	Design/Development of an efficient Energy Storage System (ESS) to integrate intermittent Renewable Energy sources and to support/stabilize the grid.	The increasing reliance on renewable energy sources such as solar and wind presents challenges due to their intermittent nature, leading to fluctuations in power generation and grid instability. Traditional energy storage solutions often suffer from inefficiencies, high costs, and limited scalability, making it difficult to integrate renewables effectively and ensure a stable power supply. To address these challenges, the development of an efficient Energy Storage System (ESS) is needed. This system will store excess renewable energy, provide backup during low generation periods, and support grid stabilization, enabling a more reliable, sustainable, and resilient energy infrastructure.	Energy and Power Transmission	Hardware	Uncategorized
9	Develop a highly adaptive robotic system equipped with state-of-the-art advanced perception algorithms that go beyond traditional SLAM by integrating deep learning and multi-sensor fusion techniques.	The robot should intelligently learn and adapt to real-time obstacles with robust decision-making capabilities, seamlessly navigating complex and unpredictable environments while enhancing mapping accuracy and environmental awareness.	Robotics	Hardware	Uncategorized
10	Teleoperation Robot with Haptic Feedback	Design a precision-engineered robotic arm capable of remote manipulation. The system must include advanced haptic feedback to simulate intricate touch sensations, enabling highly sensitive operations in hazardous or inaccessible environments.	Robotics	Hardware	Uncategorized
11	Edge AI for Smart Surveillance in public	Create an autonomous surveillance system integrated with Edge AI for localized processing of high-resolution video streams. The system should support advanced anomaly detection, motion tracking, and real-time facial recognition, reducing dependency on centralized cloud infrastructure.	Edge AI	Hardware	SDG 9: Industry, Innovation, and Infrastructure
12	Edge Computing for Disaster Response Networks	In disaster-stricken areas, communication infrastructure is often severely damaged, making it challenging to coordinate rescue operations and assess damage in real-time. Traditional centralized systems fail in such environments due to unpredictable terrains, intermittent connectivity, and the need for immediate decision-making. A robust edge-computing network leveraging IoT devices and a simulated drone-like data source is required to enable localized data processing and real-time analysis. The system must operate effectively without relying on external networks, assessing damage, detecting hazards, and monitoring environmental factors.	IoT	Hardware	SDG 9: Industry, Innovation, and Infrastructure
13	AI-Enabled Real-Time Speech Enhancement for Low-Quality Audio Devices (Edge AI and ML, Software)	Develop an Edge AI solution for enhancing speech quality on low-cost audio devices. The system must reduce background noise, enhance clarity, and perform speaker separation efficiently on embedded platforms like Raspberry Pi or ESP32.	AI	Software	SDG 9: Industry, Innovation, and Infrastructure
14	Real-Time Edge AI for Smart Wearables in Post-Surgery Rehabilitation (Edge AI and ML, Hardware and Software)	Design an Edge AI-powered wearable system that continuously tracks patient rehabilitation progress. The device should analyze movement, posture, and vital signs in real-time to provide corrective feedback and prevent complications.	IoT	Hardware	SDG 9: Industry, Innovation, and Infrastructure
15	Design and develop an integrated smart metering solution where an electricity smart meter acts as the central hub to connect and manage multiple utility meters (such as water, gas, and electricity meters) along with controlling home appliances.	The solution should be capable of real-time monitoring, data collection, and optimization of resource usage to enhance efficiency and achieve cost savings. It should enable seamless integration and management of different utilities through a single platform. Additionally, the system should demonstrate at least three use cases, including but not limited to:  Energy consumption management Appliance control Utility bill optimization This smart metering solution aims to provide users with better visibility and control over their resource consumption, promoting energy efficiency and reducing operational costs.	Energy and Power Transmission	hardware	SDG 7: Affordable and Clean Energy
16	Development of Portable EMI/EMC, induction measurement Instruments.	The objective is to design and develop portable instruments capable of accurately measuring Electromagnetic Interference (EMI), Electromagnetic Compatibility (EMC), and electromagnetic induction in various environments. These instruments should be compact, lightweight, and user-friendly, allowing for easy field deployment and on-site testing. The system should support real-time data acquisition and analysis, providing precise measurements that help ensure compliance with international EMI/EMC standards.  Such instruments are crucial for industries involved in electronics, telecommunications, defense, automotive, and healthcare, where controlling electromagnetic emissions and ensuring device compatibility are critical. The solution should enhance the ability to detect and diagnose potential electromagnetic issues, reduce system downtime, and support preventive maintenance. Additionally, integrating features like wireless data transfer, cloud storage, and intuitive interfaces will enable efficient data management and remote monitoring.	Electronics	hardware	Uncategorized

17	Developing writing pen and writing pad for children with Specific learning disability.	The goal is to design a special writing pen and writing pad to help children with specific learning disabilities (SLD) improve their writing skills. The pen and pad should be easy to use, comfortable to hold, and help children practice writing letters and numbers correctly. The system can include features like guided tracing, audio feedback, and error correction to make learning more fun and interactive. This tool aims to support children in developing better handwriting, coordination, and confidence in their learning.	Embedded	hardware	Uncategorized
18	Development of innovative design for flushing systems in western toilet sheets which can be used for deployment in public toilets.	The objective is to develop an innovative and efficient flushing system specifically designed for western toilet seats used in public toilets. The system should focus on water conservation, hygiene, and ease of maintenance. It should ensure effective cleaning with minimal water usage and prevent clogging or leakage. The design must be durable, cost-effective, and capable of withstanding frequent use in high-traffic public areas. Additionally, features like touchless operation, automatic flushing, and self-cleaning mechanisms can improve user hygiene and reduce the need for manual cleaning.	Mechanical	hardware	Uncategorized
19	Develop a Fraud Detection Chatbot to assist both customers and insurers in real-time by identifying potentially fraudulent activities and improving the efficiency of fraud prevention in the insurance industry.	<p>The insurance industry faces significant challenges in detecting and preventing various types of fraud, such as identity theft, premium fraud, and claim inflation. Fraudsters are using increasingly sophisticated techniques, and the large volume of data generated by insurers makes it difficult to detect and mitigate fraudulent activities effectively.</p> <p>To address this issue, a Fraud Detection Chatbot will be developed. This chatbot will engage in conversations with customers, analyze input data patterns, and flag suspicious claims or behaviors in real-time. By integrating AI and machine learning, the chatbot will continuously learn and improve its fraud detection capabilities. It will offer immediate assistance and suggestions to mitigate risks, enhancing fraud prevention efforts and improving the overall efficiency of claim processing.</p>	Cybersecurity	software	SDG 9: Industry, Innovation, and Infrastructure
20	AI-Based Defective Exhibit Identification System	<p>The AI-Based Defective Exhibit Identification System aims to automatically detect and identify defective items or exhibits in various settings, such as manufacturing units, quality inspection areas, or exhibitions. Using advanced computer vision and AI algorithms, the system will analyze images or video feeds in real-time to spot defects, damages, or irregularities in products or displays. This solution will help reduce human error, speed up the inspection process, and ensure higher accuracy in identifying defects.</p> <p>By providing instant feedback and reports, the system can improve quality control, reduce operational costs, and enhance overall efficiency. It can be integrated into existing workflows and customized for different industries, ensuring versatility and ease of adoption.</p>	AI	software	Uncategorized
21	Create a rule engine that can evaluate multiple rules against a list of objects, ensuring flexibility, efficiency, and accuracy in processing dynamic rules and inputs.	<p>The rule engine should be capable of handling a variety of rules that can change over time, without requiring significant code modifications. It must efficiently process multiple objects, evaluating them against the defined rules to produce accurate results based on the given conditions.</p> <p>The system should support easy addition, removal, or modification of rules, allowing users to adapt to new requirements quickly. Additionally, it should be optimized for performance, ensuring scalability when dealing with large datasets or complex rule sets. The solution aims to streamline decision-making processes by providing a flexible and reliable mechanism for rule evaluation.</p>	Automation	software	SDG 9: Industry, Innovation, and Infrastructure
22	Cybersecurity Awareness Gamification	Design an educational game that teaches users about cybersecurity practices like password management, phishing detection, and safe browsing through interactive challenges and levels. The game should simulate real-world scenarios to help users identify threats, create strong passwords, and recognize suspicious activities. It should provide feedback and tips to reinforce learning and track user progress to encourage continuous improvement. The solution can be developed as a mobile or web-based game with leaderboards and rewards to enhance user engagement.	Cybersecurity	software	Uncategorized
23	Blockchain-Based Peer-to-Peer Energy Sharing	Create a platform that enables communities to share surplus renewable energy using blockchain technology for secure and transparent transactions. The platform should allow users to trade excess energy generated from solar panels or wind turbines directly with others in the community. Smart contracts should automate the transaction process, ensuring real-time tracking of energy generation, consumption, and pricing. The solution can be developed as a mobile and web application with secure wallets and real-time data visualization.	Blockchain	software	SDG 9: Industry, Innovation, and Infrastructure
24	AI-Powered Water Quality Monitoring	Develop an AI solution that analyzes water quality data from various sources, such as sensors, satellite imagery, and lab reports, to predict contamination levels or risks. The system should use machine learning models to identify patterns, detect anomalies, and forecast potential contamination events. It should provide real-time alerts and recommendations for corrective actions. The solution can be deployed as a mobile or web-based platform with data visualization and reporting features.	IOT	hardware	SDG 9: Industry, Innovation, and Infrastructure

25	Smart Helmet for Emergency Alerts	Create a helmet equipped with sensors to detect accidents such as falls or collisions. Upon detecting an impact, the helmet should automatically send alerts with the rider's real-time location to emergency contacts or services via GPS and mobile networks. It should also include features like voice assistance, SOS buttons, and health monitoring. The solution can be developed with a mobile app interface for configuration and status updates.	IoT	hardware	Uncategorized
26	Self-Adjusting Prosthetics: Build a prosthetic limb that uses sensors and actuators to adapt its grip or movement based on the user's activity.	Build a prosthetic limb equipped with sensors and actuators that automatically adjust its grip or movement based on the user's activity. The prosthetic should use AI to analyze muscle signals, pressure, and motion data to adapt to different tasks such as gripping objects, walking, or running. It should provide real-time feedback to enhance comfort and precision. The solution can include a companion app for calibration, activity tracking, and customization.	Robotics	hardware	SDG 9: Industry, Innovation, and Infrastructure
27	Firefighting Robot.	Create a robot equipped with thermal imaging cameras and water cannons to assist in extinguishing fires in hazardous areas. The robot should use AI-based navigation to detect fire sources, avoid obstacles, and determine the most effective firefighting strategy. It should autonomously adjust water pressure and targeting based on fire intensity and location. The solution can include remote control functionality and real-time monitoring through a mobile or web-based interface.	Robotics	hardware	Uncategorized
28	Wearable Device for Elderly Fall Detection.	Develop a wearable device equipped with motion sensors and AI algorithms to detect falls in elderly individuals. Upon detecting a fall, the device should automatically send alerts with the user's real-time location to caregivers or emergency services via mobile networks. It should also monitor vital signs like heart rate and provide real-time health data through a companion mobile app. The device should be lightweight, comfortable, and have long battery life.	IoT	hardware	SDG 9: Industry, Innovation, and Infrastructure
29	Automated AI/ML System for Detecting and Mitigating Online Fraud	Create and implement an AI/ML-based system that can autonomously analyze and categorize online content, distinguishing between authentic and fake/fraudulent websites, advertisements, and customer care numbers. The system aims to achieve the following: <ul style="list-style-type: none"> <li>Website Authentication: Develop algorithms to assess the legitimacy of websites based on domain, SSL certificates, and other authentication indicators.</li> <li>Ad Content Analysis: Implement NLP and image recognition techniques to evaluate the authenticity and accuracy of ad content.</li> <li>Customer Care Number Verification: Establish a database of verified customer care numbers and compare incoming numbers to identify potential scams.</li> <li>Real-time Detection: Enable real-time analysis of online content to prevent users from accessing fake or malicious websites.</li> <li>User Feedback Integration: Incorporate mechanisms for user feedback to enhance the system's accuracy and adapt to evolving fraudulent tactics.</li> </ul>	AI	software	SDG 9: Industry, Innovation, and Infrastructure
30	Solar Power Estimation Portal	Develop a geospatial web based portal for estimating the power that can be generated using solar energy based on the size of civilian housing rooftops. The system should have the facility to let the user choose an area and based on this, determine how much solar energy can be generated at building level using existing solar radiation related satellite data and some assumptions on the power related configuration of solar cells use Dataset.	Energy and Power Transmission	software	SDG 9: Industry, Innovation, and Infrastructure
31	Federated Learning Framework for Healthcare	Develop a federated learning framework that enables hospitals to collaboratively train AI models on patient data without sharing sensitive information. The system should use advanced privacy-preserving techniques to ensure data security and comply with regulations like HIPAA. By aggregating insights from multiple hospitals, the framework will provide accurate predictions and valuable insights for disease diagnosis and treatment, ultimately improving patient outcomes while maintaining trust and data confidentiality.	AI	software	SDG 9: Industry, Innovation, and Infrastructure
32	AI powered financial advisor for rural India/or those new to financial literacy	Scenario: Lakshmi, a widow and mother of two in a remote village in Odisha, has always dreamed of starting a small dairy business to secure a better future for her children. However, she lacks formal education and is intimidated by the complexities of financial products. Without access to financial literacy resources or tailored banking services, Lakshmi struggles to navigate the financial landscape and fears making decisions that could jeopardize her family's future. Student's Challenge: Create an AI-powered financial empowerment platform designed specifically for rural women like Lakshmi. The platform should provide AI-driven personalized financial education, accessible in local languages, and tailored to varying levels of literacy. It should also offer micro-investment opportunities, AI-powered budgeting tools, and secure, easy-to-understand banking options. Additionally, the solution could include AI-driven mentorship and community support features that connect users with successful female entrepreneurs and financial advisors, fostering a culture of financial independence and confidence.	AI	software	SDG 9: Industry, Innovation, and Infrastructure

33	Extending the Range and Scalability of Zigbee Networks for Larger Homes and Future Device Expansion.	Zigbee is a popular wireless communication protocol for IoT devices due to its low power consumption and reliable performance in short-range communications. However, it has a limited range compared to Wi-Fi, which may pose challenges when used in larger homes or environments requiring coverage over extended areas. To address this limitation and ensure scalability for future device additions, there is a need to develop methods and technologies that can extend the reach of Zigbee networks. This could involve implementing network topology enhancements, such as mesh networking, deploying Zigbee repeaters, or integrating Zigbee with other communication protocols. The solution should ensure that the Zigbee network can maintain its low power consumption while supporting an increasing number of devices and covering larger areas without sacrificing performance.	Embedded and Communication	hardware	SDG 4: Quality Education
34	Data Insights and Strategic Unit (DISU) for DoP	Establish a Data Insights and Strategic Unit (DISU) at the divisional level to serve as the nerve center for administration, governance, and control over the national postal network. The unit should leverage digitization and data-driven governance to monitor key performance indicators (KPIs), analyze operational data, and provide real-time insights. It should feature advanced data visualization tools, predictive analytics for resource allocation, and automated feedback mechanisms to improve decision-making and service efficiency. The solution should integrate with existing postal systems and provide a secure, centralized dashboard for strategic planning.	IoT	hardware	SDG 9: Industry, Innovation, and Infrastructure
35	Developing an IoT-Based Adaptive Traffic Signal System to Reduce Urban Congestion	Fixed-timer traffic signals worsen urban congestion, leading to delays, excess fuel consumption, and pollution. An IoT-based adaptive traffic signal system can leverage real-time sensor data to dynamically adjust signal timings based on traffic density, vehicle speeds, and pedestrian flow. Integrating AI-driven analytics can further optimize traffic patterns and prevent bottlenecks. Developing this system will enhance mobility, reduce emissions, and create a more efficient urban transport network.	IOT	hardware	SDG 4: Quality Education
36	Design an IoT system that uses drones, wearable devices, and sensors to improve the efficiency and effectiveness of search and rescue missions in challenging environments.	Search and rescue (SAR) missions in challenging environments, such as forests, mountains, or disaster-stricken areas, often face difficulties in locating and assisting victims quickly and efficiently. Traditional methods rely heavily on manual labor, which can be time-consuming, dangerous, and inefficient. There is a need to design an IoT-based system that integrates drones, wearable devices, and sensors to enhance the efficiency and effectiveness of SAR operations. The system should allow drones to cover large areas rapidly, providing real-time aerial views, while wearable devices worn by rescuers or victims can transmit health data, location, and vital signs. Sensors placed in strategic locations can monitor environmental conditions, detect movement, and identify hazards, ensuring more accurate and timely responses. This integrated IoT system can provide better coordination, faster victim identification, and safer operations, ultimately saving lives in high-risk search and rescue missions.	IOT	hardware	Uncategorized
37	Accessible Voting Platform with Blockchain Integration Traditional voting systems can be vulnerable to fraud, errors, and inconvenience, particularly for geographically dispersed voters.	Despite the rapid growth of online education, many e-learning platforms lack accessibility features for learners with disabilities. Individuals with visual, auditory, cognitive, or motor impairments often struggle to engage with traditional digital learning resources, which may not support screen readers, voice commands, or alternative input methods. This lack of inclusivity widens the educational gap, preventing differently abled learners from fully participating in online courses and professional development opportunities. A fully accessible e-learning platform can incorporate assistive technologies, adaptive learning tools, and AI-powered customizations to ensure a seamless and inclusive learning experience for all.	Blockchain	Software	SDG 3: Good Health and Well-being
38	Developing an IoT-Based System for Early Detection and Mitigation of Wildfires Wildfires pose a significant threat to ecosystems, property, and human lives. Early detection and rapid response are crucial for effective wildfire management.	Wildfires pose a severe risk to the environment, property, and human lives, often spreading rapidly before effective containment measures can be deployed. Traditional wildfire detection methods rely on manual observations, satellite imagery, or delayed sensor data, which may not provide real-time insights. An IoT-based early detection system can leverage a network of sensors to continuously monitor temperature, humidity, wind speed, and smoke levels. Using AI-driven predictive modeling, the system can detect early warning signs and provide real-time alerts to emergency responders, enabling faster intervention and reducing the devastating impact of wildfires.	IOT	Hardware	SDG 11: Sustainable Cities and Communities
39	Traditional manufacturing processes struggle with undetected defects and unexpected machine failures, leading to costly downtimes and reduced productivity. An IoT-powered system integrated with AI-driven computer vision and sensor analytics can enable real-time defect detection and predictive maintenance, optimizing efficiency and minimizing waste in smart factories.	In industrial manufacturing, undetected defects, unexpected equipment failures, and inefficiencies in production processes contribute to significant financial losses and reduced productivity. Traditional quality control methods and maintenance schedules often fail to prevent machine breakdowns or detect defects early enough to avoid costly rework. An AI-powered IoT system can integrate machine vision, real-time sensor analytics, and predictive maintenance algorithms to monitor production lines continuously. By identifying anomalies, predicting failures before they occur, and optimizing machine performance, this system can enhance operational efficiency, reduce downtime, and minimize waste in smart factories.	IOT	Hardware	SDG 3: Good Health and Well-being

40	Develop a Smart Backpack with Anti-Theft and Safety Features	Design a smart backpack equipped with an anti-theft alarm, GPS tracking, and an emergency SOS feature. The backpack should have sensors to detect unauthorized access attempts (such as forced opening) and trigger an alert via a mobile app. Additionally, it can include a built-in power bank, RFID-blocking compartments for card security, and an LED indicator for visibility in low-light conditions. This solution aims to enhance security and convenience for students, travelers, and professionals.	Embedded	Hardware	SDG 9: Industry, Innovation and Infrastructure
41	Develop a AI - Powered Real-Time Road Condition Monitoring System	Design a software solution that utilizes computer vision and AI models to analyze live traffic camera feeds or smartphone sensors to detect road conditions such as potholes, cracks, and waterlogging. The system should generate real-time alerts and provide local municipalities with data - driven insights for timely road maintenance.	Image Processing	Software	SDG 9: Industry, Innovation, and Infrastructure
42	Implement a Smart Wearable Posture Correction Device	Develop a wearable device that monitors a user's posture using gyroscopic and pressure sensors. The device should provide real - time haptic feedback (vibrations) when poor posture is detected and sync with a mobile app to track posture improvement over time. The system should be lightweight, comfortable, and suitable for long-term use, especially for students and professionals who spend extended hours sitting.	Embedded	Hardware	SDG 3: Good Health and Well-being
43	Develop a Solar-Powered Smart Water Purifier for Rural and Disaster-Prone Areas	Access to clean drinking water remains a challenge in rural areas and disaster-stricken regions where electricity and infrastructure are unreliable. Traditional water purification systems require consistent power supply and maintenance, making them unsuitable for such locations. There is a need for a solar-powered smart water purifier that uses advanced filtration (such as graphene-based membranes or UV-C purification) and IoT-enabled water quality monitoring to ensure safe drinking water. The system will autonomously analyze contaminants, adjust filtration mechanisms, and provide real-time water quality updates via a mobile app or local display. This will ensure sustainable, off-grid access to clean water while reducing dependence on chemical treatments and plastic bottled water.	Energy and Power Transmission	Hardware	SDG 6: Clean Water and Sanitation
44	Develop a AI-Based Sign Language to Speech & Text Converter for Real-Time Communication	Millions of people with speech and hearing impairments face communication barriers daily, limiting their ability to interact seamlessly in public and professional spaces. Existing solutions for sign language recognition are either expensive, slow, or inaccurate. There is a need for a real-time AI-based sign language recognition system that can convert sign gestures into speech and text using computer vision and deep learning algorithms. The system will work on mobile devices and AR glasses, enabling seamless interaction between the hearing-impaired and non-sign language users in daily life, workplaces, and public services.	AI	Software	SDG 10: Reduced Inequalities
45	Implement a AI - Powered Resume Analyzer for Job Seekers	Create an AI-based web application that helps job seekers optimize their resumes by analyzing structure, content, and keyword relevance based on job descriptions. The system should provide personalized recommendations for improvements, highlight missing skills, and ensure ATS (Applicant Tracking System) compatibility. Additionally, it should suggest industry-specific templates for better visibility.	AI	Software	SDG 8: Decent Work and Economic Growth
46	Developing an IoT-Based System for Early Detection and Mitigation of Wildfires Wildfires pose a significant threat to ecosystems, property, and human lives. Early detection and rapid response are crucial for effective wildfire management.	Wildfires pose a severe risk to the environment, property, and human lives, often spreading rapidly before effective containment measures can be deployed. Traditional wildfire detection methods rely on manual observations, satellite imagery, or delayed sensor data, which may not provide real-time insights. An IoT-based early detection system can leverage a network of sensors to continuously monitor temperature, humidity, wind speed, and smoke levels. Using AI-driven predictive modeling, the system can detect early warning signs and provide real-time alerts to emergency responders, enabling faster intervention and reducing the devastating impact of wildfires.	IOT	Hardware	SDG 11: Sustainable Cities and Communities
47	Incorporate Cybersecurity Awareness through Gamification	Design an educational game that teaches users about cybersecurity practices like password management, phishing detection, and safe browsing through interactive challenges and levels. The game should simulate real-world scenarios to help users identify threats, create strong passwords, and recognize suspicious activities. It should provide feedback and tips to reinforce learning and track user progress to encourage continuous improvement. The solution can be developed as a mobile or web-based game with leaderboards and rewards to enhance user engagement	Cybersecurity	Software	SDG 4: Quality Education
48	Develop an AI-Powered Fraud Detection and Risk Assessment System	Develop a financial software solution that leverages AI and machine learning to analyze real-time transactions, detect fraudulent activities, and assess risk levels. The system should integrate with banking and fintech platforms, offering automated alerts, anomaly detection, and predictive analytics to enhance security and reduce financial fraud.	Cybersecurity	Software	SDG 16: Peace, Justice, and Strong Institutions
49	Develop a Smart Wearable for Fetal Health Monitoring	Develop a non-invasive, IoT-enabled wearable device for pregnant women that continuously monitors fetal health parameters such as heart rate, movement, and oxygen levels. The device should use AI-driven analytics to detect anomalies, provide real-time insights via a mobile app, and send automated alerts to healthcare providers in case of potential complications, ensuring timely medical intervention.	IoT	Hardware	SDG 3: Good Health and Well-being