Trimity Technologies

Electronics Engineering Projects

Arduino Base Topics

Sr. No	Project Title	Objectives
1	Virtual Fencing Using Yolo Framework in Agriculture Fields (Domains / Arduino+Python)	The main objective of this project is to Monitor Agriculture field through Technological Advancement like YOLO framework
2	Vision Based Parking Occupation Detecting With Embedded AI Processor (Domains / Arduino+Python)	The main objective of this project is to detect the parking slot availability using Camera and Processor through Python
3	Monitoring Social Distancing and Crowd Through Camera for Preventing Reducing COVID Spread (Domains / Arduino+Python)	The main objective of this project is to detect whether crowd is maintaining social distance or not through Camera
4	High Protection Voice Identification Based Bank Locker Security System (Domains / Arduino+Python)	The main objective of this project is to provide high protection to bank locker through Voice identification and face recognition
5	Smart Device for Blind People (Domains / Arduino+Python)	The main objective of this project is to know the object infront of blind person by object detection and to send location of person when feels panic
6	IOT and Deep Learning Based Approach for Rapid Screening & Face Mask Detection for Infection Spread Control (Domains / Arduino+Python)	The main objective of this project is to detect face mask and measure temperature for controlling spread of virus
7	Real Time Application For Vehicle Anti-Theft Detection And Protection With Shock Using Facial Recognition And Mail Notification (Domains / Arduino+Python)	The main objejtive of this project is to protect the vehicles from thieves by using face recognition and sends the alerts through mail along with Shock Mechanism if someone trying to steal the vehicle.
8	Object Detection Using IOT and ML to Avoid Accident & Improve Road Safety (Domains / Arduino+Python)	The main objective of this project is to detect objects by using YOLO algorithm through Python to provide Road safety
9	Memory Management and Security Surveillance in CCTVFootage (Domains / Arduino+Python)	The main objective of this project is to provide Surveillance security without human efforts and storing the video in mail
10	Fire Detection and Control System Using Arduino and Webcam (Domains / Arduino+Python)	The main objective of this project is to detect the fire using Web camera and control it through Pump motor
11	IOT Based Baby Monitoring System for Smart Cradle (Domains / Arduino+Python)	The main objective of this project is to monitor baby when dear ones are far away from baby and to swing cradle if baby is crying using DC motor
12	Smart Security System For Suspicious Activity Detection In Volatile Areas (Domains / Arduino+Python)	The main objective of this project is to provide security by sending captured video to mail when any suspicious activity happened in volatile areas
13	Machine Learning Based Smart Home For Differently Abled People (Domains / Arduino+Python)	The main objective of this project is to control home appliances without any physical challenge which will be helpful for differenty abled people
14	Seat Belt Alarm and Controlling of Vehicle (Domains / Arduino+Python)	The main objective of this project is to alert driver about Seat belt and controlling vehicle accordingly

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15	Automatic Intruder Detection and Alerting System Via Mail (Domains / Arduino+Python)	The main objective of this project is to detect the intruder and alert the owner by sending mail
16	A Smart Access Control for Restricted Buildings Using Vehicle Number Plates Recognition System (Domains / Arduino+Python)	The main objective of this project is to allow the vehicles whose vehicle numbers are authorised only
17	Driver Drowsiness Detection (Domains / Arduino+Python)	The main objective of this project is to detect whether driver is drowsy or not by interfacing camera with Python installed in PC
18	Smart Door Unlocking System with Face Recognition (Domains / Arduino+Python)	The main objective of this project is to unlock the door if face isrecognised, otherwise door will not be opened.
19	Monitoring the Movements of Wild Animals and Alert System Using Deep Learning Algorithm (Domains / Arduino+Python)	The main objective of this project is to monitor movements of objects using YOLO algorithm and gives alert when wild animal is detected
20	Facial Recognition Smart Glasses for Visually Impaired People (Domains / Arduino+Python)	The main objective of this project is to give support for visually impaired people by adding face recognition in the system
21	Covid Disinfectant Tunnel Using Face mask Detection & Temperature Monitoring (Domains / Arduino+Python)	The main objective of this project is to detect face mask and monitor temperature for preventing from COVID infection
22	Arduino based Medicine Reminder and Vending Machine (Controllers / Arduino)	The main objective of this project to remind the elder people to take medicine in time along with it, it also dispenses the right medicine for that time.
23	Face Mask Detection Using Arduino & ESP32 CAM Module (Domains / Embedded applications)	The main objective of this project is to detect the face mask while entering into any public place like shopping malls, offices, schools, etc. The Highlight in this project is using ESP32 Cam, we are detecting face masks.
24	Arduino based Automated Safety Ensuring System for Passenger Boats (Domains / Embedded applications)	The main objective of this project is to save the lives of individual persons and avoid accidents of boats.
25	Smart Currency Counting Machine Using Arduino	The main objective of this project is to find the value of the particular note and the value will be added to the main balance.
26	Dual Axis Solar Tracking System with Weather Monitoring (Controllers / Arduino)	The main objective of this project is to track solar panel according to sunlight by using LDRs and shifts the solar panel direction according to sunlight and here also we will monitor the weather condition surrounding to it by using DHT11 and rain sensor.
27	Smart Soldier Strap (Controllers / Arduino)	The main objective of this project is to monitor the health conditions of a soldier. Heartbeat and body temperature of every soldier will be monitored. This technology can be helpful to provide the accurate location of missing soldier in critical condition and overcome the drawback of soldiers missing in action.
28	Multi Language Controlled Home Automation using Arduino (Domains / Android)	The main objective of this project is to help handicapped and old aged people who will enable them to control home appliances and alert them in critical situations
29	IOT & RFID Based Wireless Vehicle Charging using Arduino (Domains / WSN)	The main objective of this project is to charge the vehicle wirelessly via inductive coupling using wireless charging system
30	Vehicle and license authentication using finger print (Controllers / Arduino)	The main objective of the project is to authenticate license using fingerprint and if the person places his finger on the sensor then the device tell us whether they had a license or not. This can be done by interlinking the vehicle details with the IoT

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31	Multi-sensor Obstacle Detection System via Model-based State-Feedback Control in Smart Cane Design for the Visually Challenged (Controllers / Arduino)	The main objective of this title is to use a multi-sensor obstacle detection system for a smart cane which is proposed via model based state-feedback control strategy to regulate the detection angle of the sensors and minimize the false alerts to the user
32	Multi-sensor Obstacle Detection System via Model-based State-Feedback Control in Smart Cane Design for the Visually Challenged (Controllers / Arduino)	The main objective of this title is to use as detection system for a smart cane which is proposed via model based state-feedback control strategy to regulate the detection angle of the sensors and minimize the false alerts to the user
33	Device to check for harmful chemicals in vegetables and fruits (Controllers / Arduino)	The main objective of the project is to develop a device that would identify and measure the amount of harmful chemicals present on the skin and inside the vegetables and fruits
34	Bird Feeder and Poultry Conditioning monitoring using Embedded system (Controllers / Arduino)	The main objective of this project is to design an automatic bird feeder that feeds the birds in time which reduces the work for farmer to feed the birds
35	Data Transmission over sound (Controllers / Arduino)	The main objective of the project is to transmit data over sound, where data-over-sound enables the exchange of data between any devices with a pre-existing Ultrasonic through sound waves
36	Design and implementation of a vehicle to vehicle communication system using Li-Fi technology (Controllers / Arduino)	The main objective of the project is Design and implementation of a vehicle to vehicle communication system using Li-Fi communication in order to reduce vehicle's accidents by Li-Fi technoogy. The proposed use of Li-Fi technology comprises mainly light-emitting diode (LED) bulbs as means of connectivity by sending data through light spectrum as an optical wireless medium for signal propagation.
37	IoT Based Smart Multi Application Surveillance Robot (Controllers / Arduino)	The main objective of the project is to design and develop a surveillance robot that can reduce the casualties in the war field, where it acts as surveillance robot to capture the intruders surrounding information before the intruder is attacked by the soldiers
38	Fire Detection and Prevention System Using Machine Learning (Controllers / Arduino)	The main objective of this system is to identify the fire accidents using machine learning and gives an alert SMS to fire station along with buzzer alert and also tries to prevent the fire by sprinkling water using dc pump.
39	Automated Smart Sericulture For Enhancement Of Silk Production Using Embedded System (Controllers / Arduino)	The main objective of this project is to minimize manual invention of the farmer, by automating the process of silkworm rearing unit. This system can monitor and control temperature and humidity of silkworm rearing unit and in turn is used to increase the production of silk.
40	Embedded based real time monitoring and detection of bacterial contamination in drinking water (Controllers / Arduino)	The main objective of the project is to determine whether the water has been contaminated or if any bacteria is in it, with the help of pH and the data will be sent through cloud.
41	Monitoring & Controlling of Substation Using IoT in Distribution Power Grid (Controllers / Arduino)	The main objective of this project is to monitor the voltage, current, frequency and the temperature readings from the substation through IoT
42	COVID-19 Fencing System & Contact Traceability (Controllers / Arduino)	The main objective of this project is to trace the location of the people, who entered into the COVID-19 contaminated area and sends the same to higher officials
43	Transmission of Data, Audio Signal and Text Using Li-Fi (Controllers / Arduino)	The main objective of the project is to send an audio signal from mobile to the speaker with the help of wireless LiFi technology
44	IOT: A Novel Strategy for Biometric Voting system (Controllers / Arduino)	The main objective of the project is to propose a novel strategy, in which the validation of voting is done based on

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		fingerprint of voter and GPS location where he utilized vote will send to a server
45	Solar Powered Automated Multi-Tasking Agricultural Robot (Controllers / Arduino)	The main objective of this project is to minimize the labor and to increase the speed and accuracy of the work through multi-tasking ability of Agriculture robot which are identification of field temperature, fire incidents occurred in the field, and intruder detection
46	IOT Based Smart Helmets for Construction Workers (Controllers / Arduino)	The main objective is to design a smart flexible helmets for construction workers to monitor their health condition and to identify their rotation or orientation with respect to gravity with the help of gyroscope sensor and sends the data to cloud
47	Driver Behavior Monitoring and Warning with Dangerous Driving Detection Based on the Internet of Vehicles (Controllers / Arduino)	The main objective of the project is to avoid accidents on the roads that are caused by drivers behavior. It keeps monitoring of driving behavior, and recognizes located lane lines and warns the other nearby vehicles using IoV communication
48	Disinfecting Robot with Ultraviolet Lights (Controllers / Arduino)	The main objective of this system is to develop a disinfecting robot with the help of arduino uno, where PIR sensor to detect motion of person and ultrasonic sensor to detect obstacle in its path and UV light is used to kill COVID-19.
49	IoT Based Organic Farming by Using Aquaponics Method (Controllers / Arduino)	The main objective of this system is to develop an Internet of Things based aquaponics monitoring system which measures and displays parameters like pH level, water level, humidity, temperature, through an IOT platform.
50	Intelligent Covid-19 Pandemic Bus Service with Safety Measure (Controllers / Arduino)	This project is used for pandemic bus service for safety measure. Initially passenger need to register for e-bus pass card. Whenever they entered into the bus, they need to swipe their card then their location is sent to cloud server. Based on the distance of travel, the fare is deducted from their e-bus pass card.
51	Surveillance Monitoring With Deep Learning Using Esp32 (Controllers / Arduino)	The main objective of this project is to create a surveillance monitoring system using deep learning algorithms, the person in the video is been identified and the alert sent to the user and the buzzer gets on.
52	Design and Development Of Agri-Bot For Automatic Ploughing, Seeding And Watering (Controllers / Arduino)	The main objective of this project is to develop Agri-Bot for automatic ploughing, seeding and watering to reduce the man power and for controlling, uploading data by using a mobile app.
53	IoT Based Farming Robot Using WSN (Controllers / Arduino)	The main objective of this project is to help the farmer to reduce the human effort by automatic process using Robot
54	Advanced Traffic Violation Control and Penalty System with Web Server (Controllers / Arduino)	The main objective of this project is to create an intelligent traffic violation detection and traffic flow analysis system to monitor and measure red light jumping.This system is based upon RFID technology for identification of vehicles on the road and OpenCV, IoT for charging the vehicle for jumping red light.
55	Robotic Arm for inspection, cleaning and painting of tanks on ships to save on time, cost and avoid accidents (Controllers / Arduino)	The main objective of the project is to minimize the labor for cleaning, inspection and painting of tanks on ships in time using Robotic arm and also to alert officials during leakage, to avoid accidents
56	Solar Dryer Alarm for the safety of food (Controllers / Arduino)	The main objective of the project is to design a system for automatic temperature conditioning, for drying of fruits and vegetables based on the product and alerting after completion of the process

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57	Junction Street Light System Automatic Control Using Renewable Energy Resource (Controllers / Arduino)	The main objective is switching of street lights in the evening when there is dark using solar energy stored but focuses on switching only when any object/vehicle/public passes by , by using sensors and then is automatically switched on when they are passing.
58	Machine Learning-based Surveillance System for Detection of Bike Riders without Helmets and Triple Rides (Controllers / Arduino)	A machine learning based surveillance system which can able to detect the persons without helmet and/or people who are going on a triple rides
59	COVID-19 Fencing System & Contact Traceability (Controllers / Arduino)	The main objective of this project is to trace the location of the people, who entered into the COVID-19 contaminated area and sends the same to higher officials
60	Arduino Based traffic congestion control with automatic signal clearance for emergency vehicles and Stolen Vehicle Detection (Domains / WSN)	The main objective of this system is to controlling the traffic signals so that the ambulance would be able to cross all the traffic junctions without waiting.
61	Arduino Based traffic congestion control with automatic signal clearance for emergency vehicles and Stolen Vehicle Detection (Domains / WSN)	The main objective of this system is to controlling the traffic signals so that the ambulance would be able to cross all the traffic junctions without waiting.
62	Development Of Data Acquisition Robot For Toxic Environmental Monitoring Using WSN (Controllers / Arduino)	The main objective of the project is to develop and implement Data Acquisition Robot for industrial applications that detect the damages inside the oil pipe which cannot be detected by human beings as there is very heavy temperature, pressure and toxic gases inside it.
63	Multi-Directional Rotating Dumping Trailer (Controllers / Arduino)	Modern 3 ways dropping dumper' has been conceived by observing the difficulty in unloading the materials. The survey in this regards in several automobile garages, revealed the facts that mostly some difficult methods were adopted in unloading the materials from the trailer
64	Development Of Data Acquisition Robot For Toxic Environmental Monitoring Using WSN (Controllers / Arduino)	The main objective of the project is to develop and implement Data Acquisition Robot for industrial applications that detect the damages inside the oil pipe which cannot be detected by human beings as there is very heavy temperature, pressure and toxic gases inside it.
65	Arduino-based Amazon's Alexa-controlled home automation (Domains / IOT)	The main objective of this concept is to control home appliances from any where in the world using alexa voice services.
66	IOT Based Biometric Attendence Using Arduino (Domains / IOT)	The main objective of this project is to use Biometric Authentication for attendance management and also uploading the same data to server
67	Asset Tracking System For Logistics By Using NB-IOT (Controllers / Arduino)	The main objective of this project is to track the assets in a room where they have placed when importing into the industry. The tracking of assets can be done with the help of Bluetooth communication.
68	IoT Based Smart Factory Management System (Controllers / Arduino)	The main objective of this project is to monitor and manage processes remotely and change production plans quickly. Moreover, if any emergency cases occurred buzzer gets ON to alert and SMS will be sent to take an immediate action.
69	Arduino Based Secure Fingerprint Bank Locker With Image Capture	The main aim of this system is to secure property in the bank by using face validation and fingerprint validation. By this it is more secured.
70	Design & Implementation of An Automated Reminder Medicine Box For Old People And Hospital (Controllers / Arduino)	The main aim of the project is to develop a smart medicine remainder box that is used to remind our loved ones to take medicines on time. This can be used by an individual, it can remind upto three pills taking time.

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