



## **VIGYAAN PROBLEM STATEMENTS**

**(Department of Master of Computer Applications)**

### **Machine Learning and Image Processing:**

#### **➤ Gesture Recognition of Sign Language for Deaf and Dumb People**

It's very difficult for mute people to convey their message to regular people. Since regular people are not trained on hand sign language, the communication becomes very difficult. Propose a smart speaking system that helps mute people in conveying their message to regular people using hand motions and gestures. The system may read persons hand motions for different variations of hand movement.

#### **➤ Number Plate Recognition**

With the increase in population, number of vehicles has also increased on roads. And it is like daily routine that someone breaks the traffic rules. Sometimes they get charged but sometimes they don't. Design a system which can recognise the number plate of vehicles that do not follow traffic rules and e-challan will be sent to that person automatically. They will help to maintain traffic rules. Also the information from the number plate can be used at various areas like toll plaza, parking area, highly security area, border areas, etc.

#### **➤ Plant Disease Detection**

Identification of the plant disease is the key to prevent the losses in the yield and quality of the agricultural product. The studies of the plant disease mean the studies of the visually observable patterns seen on the plant. Design a system that can be used for the detection of plant diseases.

## **Internet of Things ( IoT ) :**

### **➤ Driver Sleepiness Detection**

Automobile safety and security in an autonomous area is primarily expected on the automobile system. Majority of these accidents are caused because of distraction or the drowsiness of driver. To overcome this problem, design a driver alert system, which gives an alert by watching each driver's eyes while driving a vehicle. Facial landmarks detection is used with help of image processing of images of the face captured using the camera, for detection of distraction or drowsiness.

### **➤ Automatic Smart Parking System**

While searing for a parking slot in Office buildings or Supermarket may waste our precious time and also increases fuel consumption of the vehicle. Design an automatic parking system that finds the nearest parking area and also provides parking slot in the given area. Thus it reduces the time in fining parking area and also fuel consumption of the vehicle.

### **➤ Over Speeding Vehicles Detection**

Road accidents occurrences have increased recently so there needs to be a system that allows detecting over speeding cars. Current speed detection systems are handheld guns held by police personnel that allow them to check car speed and then manually inform authorities about the vehicle. Design a smart system that does not need any human interception and detects cars driving at speeds over specified limit as well as wirelessly inform concerned authorities immediately.

## **Web Development:**

### **➤ Smart e-Health Gateway**

Design a smart e-Health gateway which acts as a bridge for medical sensors and hospital automation systems to internet and cloud computing platforms. Such gateways can be used in energy efficiency, reliability and interoperability of the health care systems.

### **➤ Online Presentation**

Sometimes, it can be difficult for a person to prepare a presentation for its team. With the help of the Cloud presentation website, the traditional method of creating and preparing presentation will be eliminated. All the team members can collaborate and give their ideas to make presentation online.

## **Android Development:**

### **➤ Auto alarm Updation system:**

Design a system to automate the alarm in a phone by monitoring the weather and set it up accordingly. As well as it records the way of user and tell the condition of the traffic jam in a way and set the alarm prior to the time.

### **➤ Talking Dictionary**

Develop an application that will act as a voice controlled talking Oxford Dictionary for atleast some predefined words. It may also read book online with soft voice making each word clearly understandable. You can use Alexa or some assistant to get it done.

### **➤ Wipe out HTML**

Develop an application that requires no need for HTML for the creation of websites especially for the novice users who doesn't have any knowledge of HTML.

## **Artificial Intelligence:**

### **➤ Personal Assistance**

In this busy life where we have to do lots of work we generally forget some important things. These important things include sending some important mails or to make calls, etc. Develop a mobile application that can be instructed from voice to send mail to XYZ with XYZ messages. This application must have access to Google mail service. Some additional task can also be maintained by app like preparing a work note automatically by learning from the previous activities of user.

## **Robotics:**

### **➤ Fire Fighter Robot**

Fire fighting is an important job but it is very dangerous occupation. Due to that, Robots are designed to find a fire, before it rages out of control. It could be used to work with fire fighters to reduce the risk of injury to victims. Design a robot that can go into fires and then spray water and save lives.