**LIVE VIDEO PROCESSING BASED ON TRACKING AND COUNTING**

**ABSTRACT**

Traffic management system is considered as one of the major dimensions of a smart city. With the rapid growth of population and urban mobility in metropolitan cities, traffic congestion is often seen on roads. To tackle the issues for managing traffic on roads and to help authorities in proper planning, a smart traffic management system using the Yolo algorithm and machine learning process is proposed in this project. Adaptive Traffic Signal Control (ATSC), as a key part of machine learning plays an key role in reducing traffic congestion by real-time adaptation to traffic controlling system. Moreover, these systems are integrated with machine learning and yolo algorithm. Here we proposing an machine learning with yolo algorithm for the better detection of vehicles tracking by training the dataset. We applied yolo algorithm for the better approaches by machine learning for the controlling traffic crowd more efficiently, which is an essential part of the machine learning. Specifically yolo algorithm is very best method for machine learning and easy for implementing. The main aim of goal is to avoid the traffic crowd. The live camera detection will count the number of cars in road, if suppose vehicle counts get increases an users can use another way to avoid traffic in roads and they can save their timing, the data of this system is been stored through by using machine learning processing. This conducts synthetic intersections data through the yolo algorithm and for a real-world map with real-world traffic crowd received to the individual person who can check what the condition of particular area of traffic where they want to go.

**IMAGE PROCESSING BASED PLANT LEAF DISEASE DETECTION SYSTEM.**

**ABSTRACT**

The project presents leaf disease diagnosis using video analyzing techniques for automated vision system used at agricultural field.  In agriculture research of automatic leaf disease detection is essential one in monitoring large fields of crops, and thus automatically detects symptoms of disease as soon as they appear on plant leaves. The proposed decision-making system utilizes image content characterization and supervised classifier type back propagation with feed forward neural network. Video analyzing techniques for this kind of decision analysis involves preprocessing, feature extraction and classification stage. At Processing, an input image will be resized and region of interest selection performed if needed. Here, color and texture features are extracted from an input for network training and classification. Color features like mean, standard deviation of HSV color space and texture features like energy, contrast, homogeneity and correlation. The system will be used to classify the test images automatically to decide leaf either abnormality or good one. For this approach, automatic classifier BPN with FF will be used for classification based on learning with some training samples of that two categories. This network uses tangent sigmoid function as kernel function. Finally, the simulated result shows that used network classifier provides minimum error during training and better accuracy in classification.

**CROP PREDICATION USING ML**

**ABSTRACT**

India is the second largest populated country in the world and majority of people in India have agriculture as their occupation. Farmers are growing same crops repeatedly without trying new verity of crops and they are applying fertilizers in random quantity without knowing the deficient content and quantity. So, this is directly affecting on crop yield and also causes the soil acidification and damages the top layer. So, we have designed the system using machine learning algorithm for betterment of farmers. Our project will suggest the best suitable crop for particular land based on content and weather parameters. The parameters considered in our project are the contents of nitrogen, phosphorus, potassium in soil along with the temperature, humidity, pH and rainfall. Random Forest algorithm is used for crop prediction which gives 99% accuracy. . In the natural environment, soil pH and nutrition level has an enormous influence on soil biogeochemical processes to cultivate crops. Soil pH and nutrition is, therefore, described as the “master soil variable” that influences myriads of soil biological, chemical, and physical properties and processes to now the best crop to cultivate in for farming. In this project we can predict crop to be cultivated by entering details of soil pH level and nutrition level. Hence by utilizing our project farmers can cultivate a new variety of crop, may increase in profit margin and can avoid soil pollution.

**MACHINE LEARNING BASED BLIND PEOPLE TEXT READING USING OCR ALGORITHM.**

**ABSTRACT**

Good vision is a precious gift but unfortunately loss of vision is becoming common now a day. Visually impaired people report large number of difficulties in their day today life. One of the main and most important difficulties is reading texts. To help the blind people the visual world has to be transformed into the audio world with the potential to inform them about texts they are coming across. In this project, we tend to provide them with a device which could assist them in their everyday activities by help them in studies to improve reading and learning contents by converting visual texts into audio signals. This device captures image when pointed by the user and locates the text present in the image. The text is then extracted from the image and is further converted into audio to give the user with a clarified outcome. This project helps us identify various difficulties in detecting and recognizing text in real time by an average visually impaired person and come up with solutions to help them. In our approach we have used OCR (Optical Character Recognition) for text level predictions and the then we obtain the boxed geometry output of all the texts in the images. Then for the purpose of recognition the text we pass it on to tesseract OCR to obtain the extracted text, and then we convert the text to speech for the final outcome. The main motivation behind our project is to help the visually impaired people to better recognize all the texts in front of them and help them live their day to day life just like any other normal person.