

Project Topics

Topic 1: PREDICTING THE GROWTH AND TREND OF COVID-19

Project Area: Artificial Intelligence and Machine Learning.

The outbreak of COVID-19 Coronavirus has created a calamitous situation throughout the world. The cumulative incidence of COVID-19 is rapidly increasing day by day. Machine Learning (ML) and Artificial Intelligence can be deployed very effectively to track the disease, predict growth of the epidemic and design strategies and policy to manage its spread. This study applies an improved mathematical model to analyse and predict the growth of the epidemic. An ML-based improved model has been applied to predict the potential threat of COVID-19 in countries worldwide. This can be deployed on a cloud computing platform for more accurate and real-time prediction of the growth behaviour of the pandemic. A data driven approach with higher accuracy as here can be very useful for a proactive response from the government and citizens.

Topic 2: MASK DETECTION

Project Area: Image Processing and Machine Learning.

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. The virus that causes COVID-19 is mainly transmitted through droplets generated when an infected person coughs, sneezes, or exhales. These droplets are too heavy to hang in the air, and quickly fall on floors or surfaces. You can be infected by breathing in the virus if you are within close proximity of someone who has COVID-19, or by touching a contaminated surface and then your eyes, nose or mouth. Best way to reduce the transmission of the virus is to wear a face mask in public places to stop the droplets from reaching others and visa-versa. Everyone must wear a mask in order to contain the spread of the virus, this is no easy task. Identifying people who do not wear a mask is hard to do manually; therefore we need systems like this to automate the task for us. Here the camera scans the pictures of people in public, the image is processed by the algorithm and it determines if the person is wearing a mask or not. Then suitable action can be taken against them.

Topic 3: GROCERY DETECTION

Project Area: Image Processing and Machine Learning.

Image processing can be defined as the technical analysis of an image by using algorithms. Here, image is used as the input, where the useful information returns as the output. Object detection in shelf images can solve many problems in retail sales such as monitoring the number of products on the shelves, completing the missing products and matching the planogram continuously. A lot of sample images will be fed to the algorithm to make it learn the patterns and prices, which can then be used to predict prices and type of grocery item in a shop by the user. This can be used by the store keepers to inventory the items and place them in the sections accordingly.