

ABSTRACT

The COVID pandemic had devastating effects on societies and economies around the world. The increase in the number of COVID-19 tests gives more information about the epidemic spread, which may lead to the possibility of surrounding it to prevent further infections. However, wearing a face mask that prevents the transmission of droplets in the air and maintaining an appropriate physical distance between people. Monitoring manually if the individuals are wearing facemask correctly and to notify the victim in public and crowded areas is a difficult task. Our Project also provides a comparative study of different face detection and face mask classification models. The system performance is evaluated in terms of precision, recall, F1- score, support, sensitivity, specificity, and accuracy that demonstrate the practical applicability. The system runs in real-time and detects if an individual face has facemask. The mask is extracted from real-time faces and is fed as an input into convolutional neural network (CNN). Hence, this solution tracks the people with or without masks in a realtime scenario and ensures social distancing. This can be used with the existing embedded camera infrastructure to enable these analytics which can be applied to various verticals, as well as in an office building or at airport terminals/gates. This monitoring is done with the help of Closed-Circuit-Television(CCTV) cameras. We try to reduce the widespread of the COVID-19 by identifying the person who are not wearing the masks. A large number of studies have been conducted on recognizing faces in a variety of situations, such as shifting stance or light, degraded photos, and so on. Nonetheless, the challenges posed by masks are sometimes overlooked. The main focus of this research is on facial masks, specifically how to improve the recognition accuracy of various masked faces.