# Face Mask Detection Using KNN Algorithm

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**Abstract:** *The COVID-19 pandemic has led to a sudden loss of human life worldwide and presents an uncommon challenge to public health, food systems and also the world of work. Declared by the World Health Organization(WHO), this coronavirus arises from Wuhan city, China in late December 2019. Upon thorough analysis, the virus has been ascertained as infectious and transferred by air or by coming in close contact with an infected person. To avoid the expansion of this virus, several measures are suggested, like maintaining a social distance, that is, maintaining a correct physical distance between people and reducing close contact with one another, and wearing a face mask to avoid the droplets from sending through the wind. Therefore, this research paper focuses its study regarding implementing a Face Mask Detection System. These systems can produce object detection and facial recognition within the video footage of a particular area. Relatable models like the OpenCV, Image preprocessing and KNN(K-Nearest neighbor) algorithms are used. A person whose face without face-masks was detected. The including results board is shown in the output holding the number of people violating or non-violating the respective actions. When implementing and establishing the models, this research project achieved a confidence score of 100 percent. Therefore, this research project concludes with the demonstration that wearing face masks helps to decrease the enlargement of the virus and so builds a model to assist detect these actions.*

**Keywords:** World Health Organization(WHO), KNN(K-Nearest neighbor), Opencv, Image Preprocessing, Face Recognition Etc

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