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ABSTRACT

The COVID-19 pandemic has been around for 3 years, and the virus is still spreading until now and using mask is an alternative for people to not get infected, but some people tend to let go of the mask for inconvenience reasons, especially under low light conditions which is difficult for humans to identify. Thus, this paper proposed and implemented a face mask detection model which can accurately detect a person that using a mask or not in such a condition as low light by using Convolutional Neural Network (CNN) architecture with OpenCV, TensorFlow and Keras. To achieve this, the first step is to transform the data by using Python Imaging Library (PIL) to create a low light image, then we process the data by using Contrast Limited Adaptive Histogram Equalization and with Gamma Correction. The second step is to augment the data by using TensorFlow ImageDataGenerator and define the CNN model. The final step is to create the face mask prediction by using Haar Cascade Algorithm to detect the face mask. The results of this research shows that CNN model can be trained with a recreational low light images to detect face mask under low light conditions. The result of the model produced an accuracy of 98%.

***Keywords**: Face Mask Detection, Low Light, Keras, TensorFlow, PIL*