

ABSTRACT

Coronavirus Disease 2019 (COVID) is an infectious disease that has been claimed as a global pandemic at this time. The health protocol that has become a government recommendation is an effort that is expected to help reduce the spread, one of which is the use of masks when carrying out activities in public spaces or activities outside the home. In addition, technology can also play a role in helping to reduce the spread of COVID-19, namely by making a mask detection system that utilizes deep learning. The use of deep learning with Convolutional Neural Network (CNN) as a method that can detect an object will be used in building a mask detection system. CNN will be built using the MobileNetV2 architecture with the advantages that it can overcome the need for excess computing resources. Utilization of Tensorflow and Keras will also be carried out in building the framework. The model training process using MobileNetV2 shows that the best training parameters are at a learning rate of 0.00004, batch size 30 and epoch 15 with a validation accuracy value of 95.97% and a validation loss of 13.06%. detection is able to detect masked and unmasked faces well, namely at a testing distance of 50 cm to 250 cm in both light and dark conditions. It's just that in dark conditions with a distance of 250 cm the detection system can't detect masked faces properly. Tests based on several types of masks also show that the system is able to detect it well.

Keyword: COVID19, Deep Learning, Convolutional Neural Network (CNN), MobilenetV2, Tensorflow, Keras