

Face Mask Detection on Facial Images Using Convolutional Neural Network

1st Perdana Faishal Mulhaq

Department Informatics

Telkom University

Bandung, Indonesia

perdanafm@student.telkomuniversity.ac.id

2nd Suyanto Suyanto

Department Informatics

Telkom University

Bandung, Indonesia

suyanto@telkomuniversity.ac.id

Abstract—During this COVID-19 pandemic our social activity are severely restricted, caused of COVID-19 virus which spread rapidly and can perch on any surface including our skin, it will be very dangerous if the virus is penetrating to our body. The virus can enter through the nose, eyes, or mouth. To prevent the spread of this virus, the local government has urged the public to always adhere to health protocols including social distancing and the use of masks in public places. There have been many systems built to assist the community in dealing with this pandemic, Likewise with this study, in this study a system has been be built to detect the use of masks on facial images. A dataset of 11,740 face images has been collected and trained to the Convolutional Neural Network. With the help of CNN the system will be assisted in the process of object classification and detection. And using the specific model in this system, we using VGG-16. For the pre-processing phase we use the Augmentation Method to increase the result with the hope that it will get good results and can help in this pandemic. Turns out It gives the highest training accuracy of 100% and the highest validation accuracy is 99% and a good result for the test accuracy.

Index Terms—covid19, face mask, object detection, mask detection, convolutional neural network