

Abstract

Now the world is facing a pandemic caused by the SARS-CoV-2 virus, or better known as COVID-19. The virus has spread to more than 200 countries around the world. COVID-19 is very susceptible to infection in crowded areas. WHO recommends always wearing a mask, and keeping a distance to reduce transmission. Therefore, the intensity of using masks is increasing. Due to the importance of wearing masks at this time, monitoring the correct use of masks is important. Not everyone wants to obey the rules of wearing masks in an orderly manner. Many people found using masks incorrectly, such as wearing a mask but not covering the nose. Of course, monitoring the correct use of masks on a large scale is not easy. Technology is needed to be able to help humans in supervising the use of masks. To create this technology, a method with high precision and accuracy is needed. To answer this problem, this final project will perform semantic segmentation and classification using a CNN-based method. CNN-based models are customized to be able to segment and classify at the same time, so the model has 2 outputs with input 1 image. By using semantic segmentation and classification in this final project, it is hoped that the computer can recognize and detect the use of masks on the face with precision.

Keywords: *correct use of masks, semantic segmentation, classification, convolutional neural network.*