COMPARISON OF CUSTOM CNN CUSTOM, MOBILENETV2 AND RESNET152V2 ON FACE MASK DETECTION

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ABSTRACT

The World Health Organization and the Ministry of Health of the Republic of Indonesia have made it mandatory to wear masks to suppress the spread of COVID-19. WHO provides guidelines on how to properly wear masks to cover the mouth and nose. This study aims to detect mask use using Convolutional Neural Network. CNN is one of the popular Deep Learning algorithms for image data classification problems. Wearing a mask and not wearing a mask Detection is built with the help of the MobileNetV2 and Resnet152V2 models with an architecture that supports media that has minimum computation. This study uses one optimization method from CNN, namely Adam in detecting mask use. Performance will be seen from the test results by analyzing the Accuracy, Precision, F1-Score and Recall values. The dataset used is image data of 7553 images for 2 categories, namely "wearing a mask" and "not wearing a mask". Based on the testing process, the highest accuracy with Adam optimization is 96%. With the proposed model, this study obtained the performance results of three CNN optimizations, and it was concluded that Adam optimization provided better performance results.

Keywords: Face mask detection, CNN, MobileNetV2, Resnet152V2, CNN optimization.