

ABSTRACT

Health protocols such as temperature checks and the use of masks for Trans Metro Bandung passengers in the new normal era are currently controlled directly by the Trans Metro Bandung (TMB). This is certainly less efficient in terms of time and officers and is more at risk of Covid-19. Therefore, an automated system is needed that utilizes computer vision technology and which can minimize these inefficiencies.

This research is proposed by designing a body temperature detection system using the AMG883 thermal camera and raspberry pi, as well as a contactless mask use system using the Convolutional Neural Network (CNN) classification with the Mobilenetv2 architecture. The dataset is taken directly on the TMB bus Corridor 2 Cicaheum - Cibereum. The data is separated into 80% training and 20% validation. Then the data is trained and validated to know its performance.

From the results of testing and analysis, the results of temperature measurements using AMG8833 are more accurate using a distance of 75cm. Obtained an accuracy of 99,36% and an error of 0,64%. And in the mask detection system, the best epochs for the training model are 200. The resulting training accuracy is 0.9299, validation accuracy is 0.9127, training loss is 0.2002, and validation loss is 0.2573. The mask detection system works more optimally on the front view and also works more optimally at a distance of 75cm, both for single and multiple objects.

Keywords: *Trans Metro Bandung (TMB), Computer Vision, Convolutional Neural Network (CNN), Internet of Things (IoT), AMG8833.*