ABSTRACT

Safety in using transportation is very important, as is using trains as a mode of

transportation. One of the important parts in the safety of train travel is the condition

of a good railroad track. However, train accidents due to derailment still happen in

Indonesia, therefore it is necessary to monitor the railway infrastructure. However, the

supervision of railroad infrastructure still uses a manual system.

This Final Task aims to create a system that can be used to detect and classify

damage to railroads using the Convolutional Neural Network (CNN) method.

Classification are divided into 2 classes, namely defective and non-defective.

The test scenario in this final project uses a number of 384 images. System

performance will be measured by analyzing the parameter values of resize, learning

rate, and batch size, with the output results of accuracy, precision, recall, f1-score. The

best results are obtained with an accuracy value of 80%, for defective the precision

value is 81%, recall is 74%, and F1-score is 77%, for Non-Defective the precision value

is 80%, recall is 85%, F1-score is 83%.

Keywords: Railroad, Convolutional Neural Network (CNN), Defective, Non-Defective

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