

ABSTRACT

Vehicle production is increasing every year. This happens because of the many needs of each person to have their own vehicle. Every year manufacturers produce vehicles to meet market needs in each country. Currently, many Indonesian people already have vehicles, especially cars, some have 1 car to 3 cars according to the needs of their family members, often because of the busyness or the number of vehicles we don't pay attention to important things such as the condition of the prohibition whether it is still in a proper condition or not. Tires are a very important component in a vehicle because they are related to driving safety, tires that are not optimal or defective often cause accidents ranging from minor to fatal accidents, for that choosing good tires is needed so that when the vehicle is moving it does not cause accidents such as tire bursts. or prohibition. The purpose of this research is to analyze the working system in identifying tires that are in good condition with tires that are damaged or defective.

This final project research examines how to choose a good tire by classifying tires into 2 categories, namely good tires with defective tires using the Convolutional Neural Network (CNN) method, this study uses five-layer CNN as feature extraction and tests the parameters to be used. used into the system to determine the best parameters in order to produce high accuracy.

In this study it can be seen things that affect system performance, the best accuracy obtained from this study is 88% using 1,039 image samples and using size parameters 224x224, Adam's Optimizer, Learning Rate 0.0001, Epoch 80, and Batch size 16 .

Keywords : Deep Learning, Tires, Vehicles, Convolutional Neural Network, Tire Defects, Precision, Recall, fi-score