ABSTRACT

The number of vehicles in Indonesia from year to year is increasing, of course, traffic signs are needed to improve the safety of road users. Traffic signs are common equipment on the road to convey information in the form of warnings, prohibitions, orders, or instructions listed in the form of symbols, letters, numbers, and sentences so that traffic for road users. The diversity of the number of signs currently using many makes it difficult for road users to recognize traffic signs. So many users on the streets are not comfortable with the rules. Traffic signs themselves are made for the convenience of road users. One of the supports to create comfort for road users so that the system they need can classify traffic signs. In the current era technology is developing very fast, one approach in image recognition is using the Convolutional Neural Network (CNN) method. This method is part of Deep Learning that can be used to classify and recognize a digital image. The use of CNN here varies the number of filters consisting of 5, 10, and 15, and varies the size of the kernel consisting of 5x5, 10x10, and 15x15. The dataset for classification is an image with 43 classes, this data is considered in the second stage of the German Traffic Sign Recognition Benchmark (GTSRB) held at IJCNN 2011. The classification stage uses holdout validation by displaying a confusion matrix to calculate the amount of accuracy based on data testing. The results of the greatest accuracy of the nine tests carried out based on parameters, with an accuracy rate of 89.04% in the 15 filter size trial with a 10x10 kernel.

Keywords: *Deep Learning, Image classification, traffic signs,CNN*