ABSTRACT

Autonomus car is a computer-controlled car system that can guide, adapt to the environtment, and operate without human interaction. This make traffic condition more complicated so that artificial intelligence such as providing sign information and assisting in vehicle control is needed to ensure driving safety.

This final project, a system is designed to recognize traffic sign with You Only Look Once (YOLO) method. YOLO is object detection that is using only once convolutional network. It is different with convolutional network in general that spend thousand of networks to get an image with long computing time. This final project use the YOLO9000 architecture with a dataset of 3 classes, such as turn right, turn left, and stop.

The system configuration used is learning rate, batch size, and step training. The dataset consist of 384 training data and 1920 test data. In this Final Project, the loss performance is faster to reach the value of 0 when the learning rate value is higher and the best system configuration is obtained in the 0.00002 learning rate, 4 batch size, and 15K training step with an accuracy of 94.57%.

Keyword: You Only Look Once, Traffic Sign Recognition, Accuracy