ABSTRACT

Roads are human needs that are very important for us as people who carry out activities, roads are access to the places we want. Potholes are a serious problem in every region of Indonesia, especially roads that are mostly passed by large vehicles. The increasing volume of vehicles in Indonesia is increasing the number of road users, it can hinder us as a society to move, damaged roads and potholes are also a challenge and ringtan for drivers that can lead to death, the number of accidents due to damaged roads is quite a lot and often occurs.

Therefore, a pothole detection system was created. One of the methods created to create object detection is the You Only Look Once (YOLO) method. The way YOLO works is by looking at the entire image once, then passing through the neural network once directly detects the object. The result of this Final Project is a pothole detection system that can detect potholes on various roads. This system is made using the YOLOv4 method by creating a labeling and bounding box on the dataset image.

The results of this implementation aim to detect potholes, with the output results in the form of images that have been detected. With the labeling and bounding box on the image that has been detected on the pothole. From the test results on a total of 60 images to be tested with each 30 images containing one hole with an accuracy obtained of 80% in scenario 1, and 30 images containing more than one hole with an accuracy obtained of 86% in scenario 2, with an average processing time of 0.60 seconds.

Keywords*: pothole, YOLO, object detection*