

ABSTRACT

The volume of vehicles on the traffic road becomes a reference in knowing the level of traffic density. High population growth, as well as the increasing number of vehicles each year add to the severity of existing congestion. Congestion does not only occur on highways, toll roads have started to experience congestion. This is due to inadequate infrastructure, irregular traffic lights, and negligent motorists.

In overcoming traffic congestion, cctv placed on the road will monitor traffic conditions on the road. Monitoring via cctv is still operated by humans to provide monitoring results on road traffic. The results of this monitoring are still less efficient and accurate because there can be operator errors in providing road conditions results.

The test in this final project will be made an automatic road density detector using a raspberry pi connected to a webcam to run detection automatically using the haar cascade classifier which will provide density detection results every 30 seconds. Haar cascade classifier is one of the methods used to detect vehicles in an image. From the results of the study, the highest average accuracy rate is 88.02%, using the parameters of the haar cascade classifier method, namely width 550, height 550, car scale factor 1.1, and motor scale factor 1.3.

Keywords: vehicle, traffic light, image processing, computer vision, haar cascade classifier.