

## ABSTRACT

Along with the times, this time driving a vehicle must be in compliance with existing regulations one of which is discipline in driving the vehicle. This is very important because if we ignore how to drive the vehicles we are likely to happen that are not desirable. Whether it's breaking traffic rules as well as the occurrence of accidents. Thus it is necessary to create a camera that has a marking to detect objects in the video recorded using multiple object tracking technique that is used experimental techniques to study how our visual system is able to track moving objects.

In this thesis aims to perform object tracking in a car on the highway by using simulation or software that acts as a recorder. To support this process mobi tracking Kalman filter method is used which is a recursive estimator. Specification of the system built is the input video frame grab from video, detect a vehicle, look for the centroid of each vehicle, and perform a new centroid estimation using the Kalman filter and the centroid of any tracking process is carried out on each of the detected vehicle.

Results obtained on assignment / research this after testing on the system is that it can be deduced the best parameters for tracking cars is 3 median filter parameters, parameter types of structural elements of line 900, the absolute difference of 10 threshold parameters, the size of the structure element parameter 3 and parameter bwareaopen filter 50. Average accuracy of the test data to the total light intensity is 74.8125%. Results of the average value of the results of the Kalman filter centroid distance is smaller than the average distance HSIL centroid of the detection results a Kalman filter that can improve the location of the centroid is one of the detection results.

Keyword : *Multiple object tracking, Kalman filter, Estimator*