Abstract

Currently, many cameras used to observe the traffic conditions on the highway. Many things can be obtained with the use of the camera. For example, the camera located at the entrance of the toll is used for validating the entry of vehicles. The weakness of existing system is that still needs the human involvement in observation. So, an automatic system, which is able to recognize the type of vehicle automatically, becomes necessary to be created.

In this final project, statistical algorithms and Support Vector Machines are implemented to automatically recognize the type of vehicle. Types of vehicles that can be recognized in this final project is the sedan / city car, SUV / MPV, buses, and trucks. The recognition of types of vehicles is done based on the visual length of the vehicle. Unless the length of the vehicle has not been able to visually identify the type of vehicles, especially for buses and trucks, then the Gabor filters will be added later included in the SVM classifier. Meanwhile, statistical algorithm is used to extract background from video data.

Based on experiments that have been made in several variations of light intensiity, the level of accuracy in recognizing the type of vehicle is good enough. Where accuracy in recognizing of sedan / the city car 92.11%, SUV / MPV 82,44%, 86,11% for buses, and 67,86% for trucks.

Keywords *: vehicle, support vector machine, gabor filter, visual length, statistical algorithm*