ABSTRACT

Nowadays, the amount of vehicles user is increased especially at big cities. This is the cause of traffic jam. So, people need an information of traffic jam rate at certain spot. To make information system of traffic density, we will take a few of sample pictures that figure out the condition of roads and dividedinto 5 conditions : very smooth, smooth, mediate, crowded, and stuck.

In this final examination, author uses *Support Vector Machine* (SVM), that in many application become as state of the art in pattern recognition and this domain is one of pattern recognition that grow rapidly as one of applicated studyof digital image processing technology into image form to manage an information especially traffic density. Processes that are done to identify traffic condition at certain road are taking picture and data in a road, pre-processing, feature ekstraction, and classifying condition of road. Algorithm that is used for feature ekstraction of vehicles is *2D Gabor Wavelet*, while to feature classify of road texture, author will use SVM.

The result that will be showed is a classification of road condition which divided into spesific class. And this system also can recognize certain road condition pattern and identify every road condition. This sysytem can reach 80 % in accuration rate of identifying road image use SVM.

Key word : Traffic density, 2D Gabor Wavelet, Support Vector Machine (SVM)