

## **ABSTRACT**

*The information of traffic density on some locations be one thing that is important, remaining that vehicles value that increase in some towns. Nowadays, the information traffic density is gotten by manually, this is becoming causes the traffic density in some traffic highways. To get automatic in information system about traffic density will be done recorded some traffic ways samples as subsystem of traffic density monitoring system based on image processing. From here can be obtained by traffic density information. It is easier to get a result of processing if the result is text.*

*In this final project, the study of image processing technology implementations to process the information in the form of image, in this case the highway's traffic density are investigated. The process to categorize the highway conditions are data acquisitions, pre-processing, feature extraction and classification. The algorithm which is implemented to feature extraction is Gabor Wavelet Filter, on other side the categorize the characteristic of the highway texture will use Artificial Neural Network with Backpropagation methode.*

*The results that will be showed are how a system can identify and compare the feature of highway traffic condition and can take a decision that correctly in identify every kind of highway traffic condition image. This system that is made has performance about 99,2 % to identify highway traffic condition with Artificial Neural Network Backpropagation.*

*Keyword : Image Processing, Artificial Neural Network Backpropagation, Traffic Density, Gabor Wavelet Filter*