ABSTRACT

In Indonesia, specificly in Bandung the number of motor vehicles continue to increase over the years, causing problems of vehicle congestion on the road. This problem arises because the number of road users using private vehicles as a means of transportation everyday. Information on traffic conditions is certainly needed by the riders in avoiding congestion.

Another solution to deal with congestion problems is to detect and determine the congestion of vehicles that cross the road by using CCTV cameras. CCTV cameras have been used for surveillance and monitoring of traffic because they provide information in real time. But the form of information displayed is still in the form of video that has not been categorized. In addition, the information obtained can not be concluded to be used as a prediction tool in the future.

In this study only discussed the technique of image processing in the form of a video camera CCTV a toll gate that has been determined, so it can produce data in the form of the number of vehicles that are crossing the toll gate. In this implementation used the feature extraction method of Histogram of Oriented Gradients (HOG) to recognize the pattern of an image. With this HOG technique can perform an extraction of images taken and then the data in the extraction will be classified using the Support Vector Machine (SVM) method. The results of this study obtained the average value of *Precision* 85,68%, *Recall* 96,62%, and *Accuracy* 89,62%.

Keyword: *congestion, applications, CCTV, toll road*