Abstract

In this final project has designed a system that can detect 12 kinds of traffic signs, the signs for prohibitions, orders, and instructions. Input in the form of high-dimensional image format. JPG and then detect the position of the traffic signs, so that the image can be processed to sign him then performed the recognition.

The method used is PCA (Principal Component Analysis) and K-Nearest Neighbour. In general, the process is done, there are four stages, starting from the stage of preprocessing, segmentation, feature extraction using PCA, and the introduction of signs with K-NN. At this stage the preprocessing stage thresholding RGB images to binary images using color analysis. Segmentation is a segmentation of the image carried signs that had been in the bounding box with several condition.

From the test results obtained for the value PC Principal Component Analysis is 30 PC (Principal Component) and the average computation time 2.34 second. As for the KNN using cosine method is way better in this case with 96.67 % accuracy and computational time 2.34 seconds.

Keywords: Principal Component Analysis (PCA), K-Nearest Neighbour, traffic signs