

ABSTRACT

Along with the progress of time and development of the transport, then the problem of congestion becomes a major problem for big cities, especially at the intersection of three or four in the middle of the city or streets with high traffic traffic. At this time we need a system that can detect the level of traffic density, especially in places frequented, traffic light, and the roads that have high traffic. Thus, it can assist the authorities in regulating the traffic path.

In this final project, developed traffic density detection system using a camera in which the input image acquisition in a frame or image. Then the data is processed in a computer through pre-processing (image, grayscale, filter and edge detection (Canny detection)). For the determination of the level density can be done by pattern recognition using Artificial Neural Networks or Artificial Neural Network. Simulator used is MATLAB r2009a.

At the end of this final project, making data input test image and the image was taken in front of the train BIP (Bandung Indah Plaza) due to a bridge crossing for image acquisition means. For the density condition is divided into three conditions are deserted, and Solid Normal. At the end of the task is focused on the traffic light is needed because the traffic light control system for the duration of the traffic lights that are tailored to the traffic density. Besides the selection of the computer processing is that all the traffic light has a central data processing at the same time. So that when there is an ambulance or fire truck traffic light then can be set / reset (such as the interrupt) from the central course. Once the level density can be determined, the results can be accepted by the traffic control / central, so it can be applied to adjust the flame length of traffic lights at the traffic light.

Key words: image processing, Traffic Light, Backpropagation Neural Networks, Camera