ABSTRACT

Computer Vision is the science which studies how computers can recognize objects that were observed / observable and the combination of Image Processing and Pattern Recognition. The goal of Computer Vision is to follow the eye and brain function in humans or usually called human vision. One important process in generating capacity equivalent to human vision is object recognition. To recognize an object from an image processing performed extraction and detection advance in order to recognize objects that have been detected.

Car is one type of vehicle that is very widely used, therefore detection of the type of vehicle is required to be applied in various fields of one of them on the application which is to reduce highway congestion, especially in the queue toll gate by detecting physical form of the passing cars.

In this Final Project created a system that can classify the type of car based on the shape, the ratio of the length and width of the car. The system uses the Backpropagation method is based on the number of pixels and used as the Canny algorithm for edge detection object or image. The results of detection of this car can classify some types of vehicles ie buses, trucks, commercials, and sedans with 78% accuracy level and car color classification accuracy was 48%.

Keywords: Computer Vision, Cars, *Backpropagation*, Canny edge detection