Abstract

Sensor and cameras have been used for a long time to montoring congestion for detecting traffic congestion. Traffic congestion due to slow infrastucture development is not comparable with an increase in number of vehicle. RGB image is processed using image processing to determine 3 traffic condition that is smoothly, crowded, and solid. Image processing is a method used to process the image. RGB image is convert into grayscale by divided into 3 layer dimensions. Summation of each pixel value in the layer dimensions divided by 3 generate grayscale image 2 dimension. Grayscale is convert into binary image using binay mask. Binary image divided into 5 segment with different sizes. Monte Carlo algorithm used to count the foregorund area on the binary image to determine traffic status. Test results 1 shows that first scenario generates best performance with precision crowded worth 44%, recall crowded worth 77%, precision smoothly worth 92%, recall smoothly worth 73%, and accuracy worth 73%. Test results 2 shows that second scenario generates best performance with precision solid worth 100%, recall solid worth 99%, and accuracy worth 99%.

Keyword: Grayscale, Image Processing, Image Segment, Monte Carlo Algorithm, Traffic Congestion, Traffic Status