ABSTRACT

In the development of the Automotive Industries nowaday, people begin relying on robotic technology for vehicles manufacturing, so it makes fast and easy for creating vehicles. This phenomenon makes the number of vehicles is increasing but comes with affordable prices. Another impact from this phenomenon is people are begin to buy vehicles for personal use which cause the volume of traffic increased rapidly and traffic density are everywhere.

To overcome this situation, traffic police officers were deployed to control the traffic situation by performing override the traffic lights. But if the traffic conditions at several certain time causes uncontrolled volume of vehicles. In this research, we tried to place a camera that can monitoring the number of vehicles by using SAD (Sum of Absolute Differences) algorithm. It works by comparing the value between frames in order to generate a statement of a traffic. By combining the SAD algorithm and counting white pixels, we can detect vehicles and calculate the number of vehicles in a road section in the traffic.

The result of this system, usage of SAD algorithm for traffic density detection purpose generates result 64.6% of accuracy with total amount of testing samples is 48, 31 correct samples and 17 false samples, then 5 samples when traffic density rate is high and 5 samples when traffic density rate is low for Thresholding pixels value purposes which generates value is 282.000 pixels.

Keywords*: volume*, *override*, distance, *SAD algorithm, frame*