ABSTRACT

Applying of human vision in the machine is one of the ways to make machine act like human being. Generally, video are used to apply human vision in the machine because video has a lot of information than can be analyzed by machine, such as motion. Information of motion can be used to obtain objects for tracking and counting motion objects.

This Final Project will discuss about motion detection system that can detect motion objects in the video by using frame-background difference method and frame difference method. After detection, system will count and track the motion objects, then for the last step, the values of threshold existing in system will be optimized using genetic algorithm.

The output of this project is to perform a system which is able to detect, track, count the motion objects and optimize the values of threshold that existing in system by using genetic algorithm. From the experiment that has been done, it obtain result of detection have good performance. This can be concluded based on AER value from system. Based on detection process using frame-background difference method, AER which is obtained has maximum value 41.22 %. While in detection process using frame difference method, AER which is obtained has maximum value 32.40 %.

The most optimum threshold value in frame-background difference method are 81 pixel (Area), 39.5 pixel (background difference), and 21 pixel (structure element), while for frame difference method are 200 pixel (Area), 10 pixel (frame difference) and 10 pixel (structure element)

Keyword: *motion object, motion detection, video, frame-background difference method, frame difference method, genetic algorithm*