UNIVERSITAS INTERNASIONAL BATAM

Faculty of Industrial Technology
Department of Electrical Engineering
Odd Semester 2019/2020

COMPARISON OF HOG METHOD TO HAAR LIKE FEATURE IN IMPLEMENTATION OF HUMAN TRACKING IN CCTV CAMERA

NPM: 1621001
DEDI PRASTIO

ABSTRACT

Currently, the devices used as home security are very diverse including the use or installation of Closed Circuit Television (CCTV) in certain positions at home. Presently, CCTV cameras widely used are Fix CCTV, which has the weakness of the Blind Spot, consequently at that point, the camera cannot record or detect the presence of people. Therefore, in this study, a prototype CCTV camera was designed to be able to move according to human tracking (Histogram of Oriented Gradients) (HOG) and Haar Like Feature methods.

This research compared the results of human tracking with the HOG method and the Haar Like method as well as the accuracy of the response from the CCTV camera to the human detection. The design of the prototype consisted of Raspberry Pi 3 Model B, CCTV camera series THC-T120-P and servo motor. CCTV cameras as the main sensor were added with servo motor as the driving force. The camera detected an object which is then processed by the HOG or Haar like method as a human detector in Raspberry Pi 3. If detected by humans then the CCTV camera would shove to follow the movement of people (movement of the position of the person).

The results of tests conducted show that human detection using the HOG method produces a detection percentage of 57.14% while using the Haar like method produces a detection percentage of 71.43%, this condition is due to the effect of the object's position. But in the control of the movement of CCTV cameras have been successful where it can follow the detected object.

Keywords: CCTV Cameras, Raspberry Pi, HOG Method, Haar Like Method, Human Detection