

ABSTRACT

Camera tracker is the ability of the camera to follow the movement of objects from one position to another through determining the position and direction of its motion. Camera tracker systems are increasingly being used, especially for surveillance cameras.

This final project designs a Model Predictive Control (MPC) system for tracker cameras. The output of the MPC is in the form of position pixels and converted into PWM (pulse width modulation) which will be used as input for the servo motor (actuator).

The system successfully detects the coordinates of the face, with a maximum overshoot value of 5.3% in the static test. And it produces the number of squared errors or the average RMSE PAN value of 6.7% while TILT produces an average of 12.1% of the camera's center point value (320 pixels, 240 pixels).

Keywords: *Camera tracker, MPC, servo motor, PWM*