

ABSTRACT

Nowadays, the development of technology's implementation has grown rapidly. One of the example is a video of people riding motor trail, an offroad car, and even a jetski with the action cam that plugged on their helmet, this video has been viral recently. But, with its movement change that happened the action cam will no longer on its stable condition nor back to its stable condition.

Therefore, the writer conducted a study with the usage of IMU sensor. IMU itself is an Inertial Measurement Unit where in its development there are several algorithm that used in data processing which will be resulted from the sensor.

The method used by the writer is PID method and the microcontroller used is Arduino Nano. This method generally can be found on a control system such as the one that the writer will conduct on this study. Basically there are three controllers on PID method: Proportional, Integral, and Derivative.

Based on the result of the implementation of the writer's study, PI controller can give us the wanted overshoot percentage (10%) which is 9% for roll axis and 12.5% for pitch axis.

Keywords : Arduino Nano, IMU, Servo motor, PID, Overshoot