

# **Design and Build a Microcontroller-Based Motorcycle Accident Detection and Safety System**

Supervisor (Alex Taufiqurrohman zain, S.Si., M.T.)

**Ciello Firmansyah**

Automotive Machinery Study Program, Department of Engineering  
Jember State Polytechnic

## ***ABSTRACT***

This study aims to help driver handles when an accident occurs and prevent excessive injuries caused by the vehicle's engine that is still on when it falls. The accident detection system works based on the reading of the slope when the slope is  $>50^\circ$  the system will send a notification to the intended number and location and automatically turn off the vehicle's engine. Users can also control the machine using SMS commands to help find the location of the vehicle and turn off the engine when a vehicle theft occurs. The accuracy test results on the tilt sensor MPU6050 the average error obtained was 0.289%. In the testing of the neo6mv2 GPS module, the location when outdoors and indoors affects the accuracy of the module reading.

**Keywords:** Accident Detector, Arduino Uno, Vehicle Safety System.