Abstract

Nowadays, motorbikes are vehicles that are in great interest by the community because of their cheap and affordable prices. Because of this, many people who love touring or traveling long distances using a motorcycle, during the trip motorcycle engines will work continuously without stopping. This can cause the motorcycle engine to overheat the engine and produce excess CO gas. This will cause damage to the engine on the motorcycle which will result in a decrease in performance of the motorcycle engine significantly. Until now, there is no system to prevent this from happening, therefore in this study the author will design a tool to classify and prevent damage on a motorcycle engine before damage occurs, using an Arduino Uno microcontroller and 2 sensors, namely the DHT11 temperature sensor and the MQ-7 gas sensor coupled with a fuzzy logic algorithm to classify and determine conditions on a motorcycle engine, using sound notifications using the dfplayer sound module that will be attached to the rider's helmet. The results obtained are that the temperature and emissions results are very influential on the performance of the motorcycle when used for a long time, the system has succeeded in giving a notification to the rider about the results of the classification of the state of the motorcycle engine, and the rider can also directly see the value of temperature and gas which is generated through a mini LCD screen located on the handlebars of the motorcycle and the sound notification is given.