ABSTRACT

In recent years until now there have been many cases of theft that have occurred in Indonesia, especially in metropolitan cities which are indicated by high crime rates. Various attempts have been made to suppress this theft rate, for example by using a keyless system on motorcycles, this system is usually used on high-end motorcycles. The number of levels of motor vehicle theft, it is necessary tools to overcome them.

With the planning and design of a motorcycle lock based on facial recognition with an ESP32-CAM module designed on a motorcycle that is equipped with a relay as a switch that functions to disconnect and connect the motor's electricity. Where the work system designed on this tool uses facial recognition technology that can distinguish the face of the motor owner so that when the ESP32-CAM detects a registered and recognizable face, the relay will connect the motor's electricity so that the motor can be started and vice versa. Then the level of security on the motor will be safer from theft.

From the results of implementation and testing. The tool can distinguish the face of the motorcycle owner from the face of the non-motorcycle owner. Wherefrom the results of testing the face sample of the owner of the motorbike that has been registered on the tool with a method that has been programmed so that the tool can distinguish registered faces from faces that have not been registered, the results obtained from 40 trials namely 80% in true condition and 17,5% in false condition.

Keywords: *Theft, Motorcycles, ESP32-CAM, Face Recognition.*