

## **ABSTRACT**

Motorcycle vehicles are now widely used by the community and are one of the valuable objects for the community because they have a high value. Because of this, the problem of motorcycle theft arises with various motives and when it is traced by the public or the authorities, it often loses track. With these problems, this study aims to create a tool with a motorcycle security system that can minimize the problem of motorcycle theft and lose track of the perpetrators of motorcycle theft. The method used in this study is a security system using a fingerprint reader, GPS, alarm, nodemcu, and using the IoT concept. The results of this study are that the tool can improve the security system on a motorcycle because the IoT concept on this tool is that motorcycle contacts can be turned off and on with a smartphone via a telegram message sent by the user. Then the motor cannot be turned on immediately because one of the conditions for the motor to be turned on is to match the user's fingerprint with the fingerprint that has been registered in the fingerprint reader. In addition, tools that have been installed on motorbikes can also be tracked through a google maps link sent via telegram if the user wants to know their location. Furthermore, the tool has an alarm that will sound if a fingerprint is found that does not match when attached to the fingerprint reader or can turn on and turn off the alarm using a message command sent via telegram. Thus, it can be concluded that this tool can minimize the occurrence of motorcycle theft problems and lose track of motorcycle theft perpetrators.

**Keywords:** IoT, fingerprint reader, GPS, alarm, motorcycle