

## **ABSTRACT**

Internet of Things (IoT) is a technology that connects hardware with the internet so that it can be controlled remotely by sending data from IoT devices to the server. Therefore, a network security system is needed to protect IoT user data.

Based on these problems, this final project will design an IoT network security system using the Elliptic Curve Digital Signature Algorithm (ECDSA) algorithm, which is used to maintain data security when sending from sensor to server and measure the performance of sending data with the ECDSA security system and without the security system uses the cost and time method.

This research conduct QoS testing and cost analysis on the IoT security system that has been implanted with the ECDSA method. The ECDSA security system was tested using a false data injection scenario. QoS test results and ECDSA cost and time obtained a delay of 0.1326 s and power consumption 1,38 watt.

**Keywords :** Internet of Things (IoT), Elliptic Curve Digital Signature Algorithm (ECDSA), False Data Injection, Cost