

## **ABSTRACT**

*Utilization of very sophisticated internet of things technology that makes it possible to monitor daily activities online and can be carried out automatically because humans do not always use traditional methods. Problems or obstacles for aglaonema ornamental farmers in Banyumas who do not know the problems in the field of caring for Aglaonema ornamental plants. Treating Aglaonema ornamental plants is not the same as other ornamental plants. The problem lies in soil moisture. The humidity value for good Aglaonema ornamental plants is 40% to 60%. The purpose of this research is to design a soil moisture monitoring tool and watering automation for Aglaonema ornamental plants based on IoT (Internet Of Things) technology. The designed prototype consists of 3 main blocks, namely input, process and output. The input implementation uses the YL-69 soil moisture sensor, the process part uses the Arduino Nano and ESP32 microcontrollers. The output section uses a relay to turn on the water pump, an LCD to display soil moisture levels, and an internet-connected application to display data and control the device. Based on the testing of the acquisition of very accurate sensor test results with an average % YL-69 sensor error of 1.98%, on the QOS (Quality of Service) test the measurement results are also very good with an average delay value of 0.035 s, the value the average sensitivity is 4.38V and the stability value is 40.81%.*

**Keywords:** *Internet of Things, Aglaonema, soil moisture, Arduino Nano, ESP32*