

## ABSTRACT

The greenhouse is an important aspect of agriculture where crops are grown in a controlled microenvironment. But the environmental condition of the greenhouse needs to be continuously monitored for preserving the optimal condition best suited for a crop's growth. Controlling all the artificial environmental condition has always been challenging. This is where the role of IOT comes to play. We can easily automate a system which will not only supervise the environmental parameters within a greenhouse but also regulate it. This is achievable through sensors and actuators. Sensors continuously read the environment parameters and any change from the optimal (threshold) can be counteracted by activating suitable actuators. The proposed algorithm observes temperature, humidity level and soil moisture and presence of ambient light and compare them with the optimal value for a particular crop and aims in maintaining it throughout the crop cycle. The entire system is automated which enables the greenhouse to sustain without any human intervention. Moreover, the farmer in a remote region also gets a notification regarding the automation happening inside the greenhouse, which he can easily access using a mobile application.

*Index Terms*—Internet of Things, Smart controllers, Sensors, Remote Sensing, Automation, Greenhouse Monitoring and Control.