

Smart Plant Monitoring IOT Device for Advanced Horticulture

This abstract discusses achieving sustainability in horticulture by implicating Smart agriculture IOT devices. We are incorporating image processing and deep learning for effective crop monitoring in various environments. To gain real-time data, we are implementing ground motion, temperature, humidity, nutrient level, soil moisture sensors, and a high-resolution image processor for growth monitoring. The sensors communicate through the MQTT protocol that provides seamless data transfer. Data collected is sent to the cloud and is analyzed by Machine Learning algorithms on edge devices. The central purpose of this IoT device is to reduce manual labor and improve plant health by integrating watering and fertilization. The IoT device aims to enhance horticulture productivity such that sustainability is conserved. In the future, we aspire to build a complete ecosystem that creates an interconnected environment for the green revolution and minimizes human intervention from the agriculture sector.