



Efficient Internet of Things Smart Agricultural Crops Growth using Machine Learning with Mobile Applications

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Abstract: Agriculture produces the great bulk of the world's food supply. The Internet of Things (IoT) is transforming agriculture, allowing farmers to tackle challenges like precision farming and sustainable agriculture head-on. The Internet of Things (IoT) helps gather data regarding weather, moisture, temperature, and soil fertility. Crop online monitoring allows for agriculture and weed detection. Crop online monitoring allows for pest identification, animal entry into fields, crop development, and agricultural production. Farmers can access their fields remotely via the Internet of Things (IoT) at any time. Wi-Fi sensor networks monitor agricultural conditions, while embedded systems automate and regulate farm operations. Wireless cameras sent photos and video to a central point to monitor the situation. Using IOT, farmers may monitor the status of their agricultural land from anywhere in the world at any time. The Internet of Things (IoT) can reduce costs and enhance yields in conventional farming. How farmers re-imagine computing and analysis helps avoid costly mistakes. Soil moisture, soil PH, soil NPK, temperature, and field moisture sensors are all incredibly powerful and low-cost Wireless Sensor Network – Microcontroller IC Node MCU. Using machine learning, it automatically irrigates, anticipates crop varieties, and detects leaf diseases. Cayenne is our farmer's remote eyes and hands as a localhost PC database and smartphone app.

Keywords: Smart agriculture, Data analysis, Internet of things, Machine learning, Mobile application
