

IOT BASED SMART FARMING

IDEA I

ABSTRACT:

The farming of agriculture has started past 12000 years back, Neolithic age gave birth of civilization, Farming and later being continued as traditional farming practices. India being an agrarian's country, Mostly Indian farming are dependent on rains, soil, dampness and environment challenges. Our farmers upgraded to modern state of art technology in cultivation. Globally the IoT systems has contributed its application in many fields and proven to be successful. It is the time that Indian farmer need to introduce the Smart Agricultural systems for higher crop yield. The productivity with compilation of data from sensors, actuators and modern electronic gadgets the farmer can monitor agricultural fields. Smart Agriculture can forecast weather data, switching ON the pump motor acknowledging the dampness of soil terms of moisture levels with help of sensors which are interfaced to process module Arduino-UNO. The Smart agriculture system can be operated from anywhere with help of networking technology. On joining process in research and development in Smart Agriculture& Artificial Intelligence can be cutting edge technology in data compiling and resource optimization. The pest & insects controls that protects damaging the crop and also optimisation resources utilisation can be breakthrough.

ADVANTAGES:

1. Crop monitoring can be done easily
2. Suitable machines can be identified.

DISAVANTAGES:

1. Smart farming continually requires internet connectivity.
2. The IoT related equipment allows the farmer to understand the use of technology

IDEA II

ABSTRACT:

Despite the perception people may have regarding the agricultural process, the reality is that today's agriculture industry is data-centered, precise, and smarter than ever. The rapid emergence of the Internet-of-Things (IoT) based technologies redesigned almost every industry including "smart agriculture" which moved the industry from statistical to quantitative approaches. Such revolutionary changes are shaking the existing agriculture methods and creating new opportunities along a range of challenges. This article highlights the potential of wireless sensors and IoT in agriculture, as well as the challenges expected to be faced when integrating this technology with the traditional farming practices. IoT devices and communication techniques associated with wireless sensors encountered in agriculture applications are analyzed in detail. What sensors are available for specific agriculture application, like soil preparation, crop status, irrigation, insect and pest detection are listed. How this technology helping the growers throughout the crop stages, from sowing until harvesting, packing and transportation is explained. Furthermore, the use of unmanned aerial vehicles for crop surveillance and other favorable applications such as optimizing crop yield is considered in this article. State-of-the-art IoT-based architectures and platforms used in agriculture are also highlighted wherever suitable. Finally, based on this thorough review, we identify current and future trends of IoT in agriculture and highlight potential research challenges.

ADVANTAGES:

1. Smart Farming system reduce waste
2. It enables management of a greater number of resources through remote sensing.

DISADVANTAGES:

1. Diminishes soil fertility.
2. The soil of the fields is harmed

IDEA III

ABSTRACT:

Internet of Things (IoT) is present and future of every field impacting everyone's life by making everything intelligent. It is a network of different devices which make a self-configuring network. The new developments of Smart Farming with use of IoT, by day turning the face of conventional agriculture methods by not only making it optimal but also making it cost efficient for farmers and reducing crop wastage. The aim is to propose a technology which can generate messages on different platforms to notify farmers. The product will assist farmers by getting live data (Temperature, humidity, soil moisture, UV index, IR) from the farmland to take necessary steps to enable them to do smart farming by also increasing their crop yields and saving resources (water, fertilizers). The product proposed in this paper uses ESP32s Node MCU, breadboard, DHT11 Temperature and Humidity Sensor, Soil Moisture Sensor, SI1145 Digital UV Index / IR / Visible Light Sensor, Jumper wires, LEDs and live data feed can be monitored on serial monitor and Blynk mobile. This will allow farmer to manage their crop with new age in farming.

ADVANTAGES:

1. Improves productivity
2. Better water management

DISADVANTAGES:

1. The system offers little power and can lead to various kinds of network attacks
2. Fertility is reduced