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### Patent Search

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#### Abstract:

IoT based smart farming system to predict crop and fertilizers based on various factors using machine Learning Algorithms ABSTRACT: Agriculture contributes significantly to the economy. It is crucial to the maintenance of a flourishing ecosystem. A massive array of agricultural products is indispensable to virtually every aspect of human existence. Farmers must find ways to adapt to shifting weather patterns while simultaneously satisfying the rising demand for more and higher-quality produce. To increase crop development, the cultivator must be aware of the prevailing weather conditions. This knowledge will enable the farmer to make the correct selection regarding the crop to cultivate in light of the various environmental factors. Internet of Things (IoT)-based smart farming makes the entire agricultural system more efficient through real-time monitoring. It monitors a variety of factors including humidity, temperature, and soil, among others, and provides a completely transparent real-time observation. The implementation of machine learning in agriculture is to increase both the quantity and quality of the commodities produced by this industry. The application of machine learning to the collected data can aid in recommending an acceptable crop.

#### Complete Specification

##### Description:DESCRIPTIONS:

Agriculture contributes significantly to India's overall economy. For more than 70 percent of rural households, agriculture is the primary source of income. Agriculture is a vital part of the Indian economy, accounting for approximately 17% of the country's GDP and employing over 60% of the population. In recent decades, India's agricultural sector has experienced a remarkable expansion. However, it is concerning that so many Indian cultivators are committing suicide. Farmers cited, in descending order of importance, debt, the environment, low food prices, inadequate irrigation, higher agricultural costs, the use of chemical fertilisers, and crop failure as the reasons for suicides. Intuition and extraneous factors, such as generating quick profits, a dearth of information about market demand, overestimating a soil's capacity to support a specific crop, etc., tend to cloud a farmer's decision regarding which crop to grow. The development of a system that can provide Indian farmers with predictive insights to aid them in making an informed decision regarding which crop to cultivate is an imperative task that must be completed immediately. Because of this, there is a great demand for "smart farming," which is dependent on the Internet of Things (IoT). Internet of things technology has the potential to revolutionise not only human life on the entire planet. By analysing sensor data, agricultural processes become more transparent, allowing producers to gain invaluable insights into the performance of their farms, greenhouses, and other facilities. The use of high-precision algorithms and farming aided by machine learning is a developing concept in the contemporary world. This cutting-edge movement is fostering sustainable productivity development across the agriculture industry. This movement aims to increase both the quantity and quality of manufactured goods. As a solution for smart management of crop cultivation using IoT and machine learning, we propose a system that can assist farmers in crop management by considering sensed parameters (temperature, humidity) and other parameters (soil type, location of farm, rainfall) to predict the most suitable crop.

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