IoT Based Smart Crop Protection System for Agriculture

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LITERATURE SURVEY

1. Ipseeta Nanda Published “Implementation of IoT based smart crop protection and irrigation system” at Sahithi Chadalavada Conference on February 2021 in the Journal of Physics Series.A centralised approach in the IIoT (Industrial Internet of Things) field developed for comprehending agriculture, which comes before the setup of low-power devices. A monitoring process for farm safety against animal assaults and climate change circumstances is produced by this study. Smart farming often makes use of IIoT advancements to highlight the standard of agriculture. It includes many controls and sensors. The ARM Cortex-A board, which uses 3W, is the key component in the process for WSN. The ARM Cortex-A board is equipped with a variety of sensors, including a camera, PIR sensor, LDR sensor, HC-SR04 ultrasonic sensor, and DHT 11 humidity and temperature sensor. When there is movement within the scope, the PIR activates, the camera begins to record, and the data is reserved.

2. Srikanth N, Aishwarya, Kavita H M, Rashmi Reddy K, Soumya D B Published a “Smart Crop Protection System from Animals and Fire using Arduino” on April 2019 in IEEE. Many times, indigenous animals like buffalo, cows, goats, birds, and fire destroy crops in farms. For the farmers, this results in enormous losses. Farmers cannot block entire fields or remain on the field all day to secure it. As a result, we suggest that crops be protected automatically against both fire and animals. This system is based on an Arduino Uno microcontroller. This A motion sensor and a smoke sensor are used by the system to detect any approaching wild animals and fires, respectively. In this scenario. The microcontroller is instructed to act by the sensor.

3. Dr M Suchithra, Asuwini T, Charumathi M C, Ritu N Lal published “Monitoring Of Agricultural Crops Using Cloud and IOT” on 2018 in IEEE.For centuries, farming has been the main kind of employment in our nation. In India, a third of the country's GDP and nearly 70% of the population are dependent on agriculture. However, there are presently obstacles because of the migration of people from rural to urban areas agriculture. We use IOT-based smart agriculture techniques to solve this issue. IOT (Internet of Things) is modernizing. The agriculture provides farmers with a variety of tools, including sustainable and precision farming, to address difficulties in the field. The Internet of Things (IOT) connects people, things, and other people. IOT makes it possible to sense the items and remotely managed throughout the current network model. The study includes sensors that track field factors

4. GOPIKA NAIR, MAYURI CHAWLA published “PROTECTING CROPS FROM DAMAGE CAUSED BY ANIMALS/BIRDS IN FARM LAND” on Jun-2020, IEEE. The growing of food on agricultural land should be protected from any harm being done to the growth of plants or grains because food is a necessity for human beings. Agriculture is an essential field for the cultivation of crops / grains. A mechanism must be created to safeguard the farm field from animals and birds that enter the field with the intent to damage it. crops that are prepared to produce. To do this, a fence must be built around the agricultural land, and this fence must be called a solar fence, such that once an animal touches the field, it should be given a brief pulse that Threatening them with an ultrasonic weapon and field will not affect them.

5. R. M. Joany; E. Logashanmugam, E. Anna Devi,S. Yogalakshmi published “IoT based Crop Protection System during Rainy Season” on 30 March 2022.In order to meet the demands of the expanding population, water is increasingly becoming the most scarce resource. In arid regions, where there is little precipitation annually, its significance to human existence is highlighted. Additionally, the uneven temporal and spatial dispersion leads to dry and wet spells. The speed of the water supply and the stability of crop yields are both impacted by this type of environmental scenario. Because of the difficult availability to water, cultivation is difficult. Water use efficiency is the most important and crucial agricultural component in arid regions. Reasonable irrigation management may be a fantastic strategy to increase water use potency in reduced and changing downpour circumstances. Future technology called the Internet of Things (IoT) connects a wide range of items over the internet.

6. Shishir Bagal, Krunal Mahajan, Riya Parate published “Smart Crop Protection System Using IOT” on April 2021 in IEEE.The smart crop protection system's technique is defined in this study. SCPS's objective is to secure or safeguard the farm from farm theft or the primary goal of this endeavor is to warn the farmer. Similarly to the dread of harming animals.

7. Sukhwinder Sharma, Puneet Mittal, Anuradha published “IoT-Based Smart Security System for Agriculture Fields” on 2022 in Forensics. Farmers must safeguard their crops from weeds, illnesses, and insects as well as against unfavorable weather conditions like hail and frost. These challenges are well-known. However, they also have to deal with the significant difficulty of safeguarding their crops from wild creatures that could seriously harm their cultivated crops by nibbling on plant portions or trampling them underfoot. Due to distance and the expense of hiring staff for this purpose, regular monitoring of fields is not practicable because the majority of farmers avoid their fields. The availability of low-cost, simple-to-install, and user-friendly solutions to these issues is now possible thanks to modern technologies. This study intends to create and deploy an IoT-based security system for agricultural fields that can identify and communicate.

8. Krunal Mahajan, Riya Parate, Ekta Zade, Shubham Khante published “SMART CROP PROTECTION SYSTEM on Feb 2021.This article provides an overview of numerous studies on intelligent crop protection system. Technology is widely available nowadays and can 24 hours a day, 7 days a week, those systems, technique that is the subject of this essay. To date numerous forms of technology that can protect the farm. After seeing Arduino and Farm protection system powered by Raspberry Pi. But those Systems each have an own mythology, platform for such and the associated project costs as well risen to the point where such are no longer within the farmer. We want to create a system that can assist farmer in animal protection for his property without causing them damage.

9. Mohit Korche,Sarthak Tokse, Shubham Shirbhate, Vaibhav Thakre, S. P. Jolhe, on “Smart Crop Protection System” on August 2021 in International Research Journal of Engineering and Technology (IRJET).Agriculture is the foundation of the economy, yet animal intervention on agricultural land will result in significant crop loss. This article offers a thorough analysis of the numerous strategies used by farmers to safeguard their crops. The employment of contemporary technology in agriculture is also included in the essay. This article concludes with discussing a smart crop protection system that uses sensors, a microcontroller, and a GSM module.

10. Dr.N.Suma, Sandra Rhea Samson, S.Saranya, G.Shanmugapriya, R.Subhashri published “IOT Based Smart Agriculture Monitoring System” on February 2017 in International Journal IJRITCC.Agriculture is the primary occupation in our country for ages. But now due to migration of people from rural to urban there is hindrance in agriculture. So to overcome this problem we go for smart agriculture techniques using IoT. This project includes various features like GPS based remote controlled monitoring, moisture & temperature sensing, intruders scaring, security, leaf wetness and proper irrigation facilities. It makes use of wireless sensor networks for noting the soil properties and environmental factors continuously. Various sensor nodes are deployed at different locations in the farm. Controlling these parameters are through any remote device or internet services and the operations are performed by interfacing sensors, Wi-Fi, camera with microcontroller. This concept is created as a product and given to the farmer’s welfare.