LITERATURE SURVEY

IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

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IoT BASED CROP PROTECTION SYSTEM AGAINST BIRDS AND WILD ANIMAL ATTACKS

The main aim of our project is to protect the crops from damage caused by animal as well as divert the animal without any harm. Crops in farms are many times ravaged by local animals like buffaloes, cows, goats, birds etc. This leads to huge losses for the farmers. It is not possible for farmers to barricade entire fields or stay on field 24 hours and guard it. So here we propose automatic crop protection system from animals. Animal detection system is designed to detect the presence of animal and offer a warning. In this project we used PIR and ultrasonic sensors to detect the movement of the animal and send signal to the controller. It diverts the animal by producing sound and signal further, this signal is transmitted to GSM and which gives an alert to farmers and forest department immediately.

Sensor based Automated Irrigation System with IOT: Karan Kansara , Vishal Zaveri , Shreyans Shah , Sandip Delwadkar2, Kaushal Jani [2015]

The system consists of five infield sensing stations distributed across the field, an irrigation control station, and a base station. The in-field sensing stations monitor the field conditions of soil moisture, soil temperature, and air temperature, whereas a nearby weather station monitors micrometeorological information on the field, i.e., air temperature, relative humidity, precipitation, wind speed, wind direction, and solar radiation. All infield sensory data are wirelessly transmitted

to the base station. The base station processes the in-field sensory data through a user-friendly decision making program and sends control commands to the irrigation control station. The irrigation control station updates and sends geo-referenced locations of the machine from a differential GPS mounted at the cart to the base station for real-time monitoring and control of the irrigation system. Based on sprinkler head GPS locations, the base station feeds control signals back to the irrigation control station to site-specifically operate individual sprinkler to apply a specified depth of water.

Application of IOT and machine learning in crop protection against animal intrusion: K Balakrishna Fazil Mohammed C.R.Ullas C.M.Hema S.K.Sonakshi[2021]

Animal infiltration is a serious danger to crop yield, which has an impact on food security and lowers farmer profits.The Internet of Things and machine learning techniques are being developed in this proposed model's answers to this issue.The ESP8266 Wireless Fidelity module, Pi Camera, Buzzer, and LED are all interfaced with the machine algorithm, which is run on the Raspberry Pi.To identify objects in photos and categorise the animals, machine learning algorithms like Single Shot Detection and Region-based Convolutional Neural Networks are crucial.The results of the experiments show that Single Shot Detection outperforms Region-based Convolutional Neural Network technique.Finally, the programme that interfaces with the Twilio API decimates the information to the farmers so they can contain.

Smart Agriculture Monitoring and Control System Using IOT:Divya J., Divya M.,Janani V. [2014]

Agriculture is essential to India's economy and people's survival. The purpose of this project is to create an embedded-based soil monitoring and irrigation system that will reduce manual field monitoring and provide information via a mobile app. The method is intended to help farmers increase their agricultural output. A pH sensor, a temperature sensor, and a humidity sensor are among the tools used to examine the soil. Based on the findings, farmers may plant the best crop for the land. The sensor data is sent to the field manager through Wi-Fi, and the crop advice is created with the help of the mobile app. When the soil temperature is high, an automatic watering system is used. The crop image is gathered and forwarded to the field manager for pesticide advice.

Intelligent Crop Monitoring and Protection Systemin Agricultural fields Using IoT: Ramaprasad S S, Sivaprasad Lebaka, Rajendra Prasad, P,Manohar G N [2019]

Water is an important resource for human being, animals, and plants and also for next generations, this resource we have to use in controlled and effective way. As we all know that

agriculture sector requires huge water, in this paper we have implemented intelligent agriculture system which uses optimal water and also gets good yield. With this work an irrigation system is operated measuring the moisture content of the soil, later harvesting the excess water from the cultivation field and recycled back to the tank. The developed system also alerts the farmer with buzzer when there is an intruder (human/animal) into the farm. The Field information is sent to the cloud using Wi-Fi and to the registered mobile at regular intervals to make the research about the field condition and also about the crops. In this system we have also used solar energy for backup purpose as there is a lot of load shedding in rural areas. This intelligent irrigation system gets good and quality crop yield, it saves the water which is flowing as excess and also it protects the agriculture field from intruders.

IOT BASED CROP MONITORING FROM ANIMALS: K.B. Pavan Kumar1, T. Bhavitha2, S. Karishma3, M. Pavithra4, M. Prashanth Kumar5 [2019]

India is mostly an agricultural country.The output and calibre of agricultural products must be raised.An automatic system that assists the user in the irrigation operation is the proposed design.This proposed design is also helpful for the Users who are experiencing power outage issues to maintain a consistent water supply due to power failure or inadequate and non-uniform water supply as it keeps alerting the farmer through an on-board LCD display and messages that are sent to the User PC.This technology, which can represent a turning point for our society, keeps the Users informed of all background activities through an autonomous irrigation system as well.The country's users can easily afford the equipment.This suggestion

Protection of Crops from Wild Animals Using Intelligent Surveillance System: Vikas Bavane1, Arti Raut2, Swapnil Sonune3 [2018]

In many areas, including at home, in hospitals, at schools, and in public places, surveillance is crucial.agriculture, etc.It enables us to keep an eye on a certain region, stop theft, and also offers proof of evidence.In the case of farms or agricultural fields, surveillance is crucial to deterring unwanted entrance as well as to safeguarding the region from animals.

The major opponents of such farmers are the animals that destroy their crops, but we often forget that various ways simply focus on surveillance, which is primarily for human intruders.

This results in low crop yields and substantial financial loss for the agricultural owners

Implementation of IIOT based smart crop protection and irrigation system: Ipseeta Nanda1,Sahithi Chadalavada2,Medepalli Swathi3, Lizina Khatua4 [2020]

A centralizing method in the area of IIoT (Industrial Internet of Things) contrived for understanding agriculture which is preceding the arrangements low-power devices . This paper yields a monitoring procedure for farm safety against animal attacks and climate change conditions. IIoT advances are frequently used in smart farming to emphasize the standard of agriculture. It contains types of sensors, controllers. On behalf of WSN, the ARM Cortex-A board which consumes 3W is the foremost essence of the procedure . Different sensors like DHT 11 Humidity & Temperature Sensor, PIR Sensor, LDR sensor, HC-SR04 Ultrasonic Sensor, and camera are mounted on the ARM Cortex-A board. The PIR goes high on noticing the movement within the scope, the camera starts to record, and the data will be reserved on-board and in the IoT cloud, instantaneously information will be generated automatically towards the recorded quantity using a SIM900A unit to notify about the interference with the information of the weather conditions attained by DHt11. If a variance happens, the announcement of the threshold rate will be sent to the cell number or to the website. The result will be generated on a catalog of the mobile of the person to take the necessary action .

IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE :Dweepayan Mishra, Arzeena Khan, Rajeev Tiwari, Shuchi Upadhaye [2016]

Agriculture is a substantial source of revenue for Indians and has a huge impact on the Indian economy. Crop development is essential for enhanced yield and higher-quality delivery. As a result, crop beds with ideal conditions and appropriate moisture can have a big influence on output. Traditional irrigation systems, such as stream flows from one end to the other, are usually used. As a result of this delivery, the moisture levels in the fields can alter. A designed watering system can help to enhance the management of the water system. This research proposes a terrain-specific programmable water system that will save human work while simultaneously improving water efficiency and agricultural productivity. The setup is made up of an Arduino kit, a moisture sensor, and a Wi-Fi module. Data is acquired by connecting our experimental system to a cloud framework. After then, cloud services analyse the data and take the necessary actions.