LITERATURE SURVEY

1. **TOPIC :** IoT-Enabled Smart Agriculture
   AUTHOR : Vu Khanh Quy , Nguyen Van Hau , Dang Van Anh
   DESCRIPTION : The growth of the global population coupled with a decline in natural resources, farmland, and the increase in unpredictable environmental conditions leads to food security is becoming a major concern for all nations worldwide. These problems are motivators that are driving the agricultural industry to transition to smart agriculture with the application of the Internet of Things (IoT) and big data solutions to improve operational efficiency and productivity. The IoT integrates a series of existing state-of-the-art solutions and technologies, such as wireless sensor networks, cognitive radio ad hoc networks, cloud computing, big data, and end-user applications. This study presents a survey of IoT solutions and demonstrates how IoT can be integrated into the smart agriculture sector. To achieve this objective, we discuss the vision of IoT-enabled smart agriculture ecosystems by evaluating their architecture (IoT devices, communication technologies, big data storage, and processing), their applications, and research timeline. In addition, we discuss trends and opportunities of IoT applications for smart agriculture and also indicate the open issues and challenges of IoT application in smart agriculture. We hope that the findings of this study will constitute important guidelines in research and promotion of IoT solutions aiming to improve the productivity.

2. **TOPIC :** Smart Farm Monitoring Using Raspberry Pi and Arduino

AUTHOR : Siwakorn Jindarat, Pongpisitt Wuttidittachotti

DESCRIPTION : This study aimed to investigate an establishment using an Intelligent System which employed an Embedded System and Smart Phone for chicken farming management and problem solving using Raspberry Pi and Arduino Uno. An experiment and comparative analysis of the intelligent system was applied in a sample chicken farm in this study. The findings of this study found that the system could monitor surrounding weather conditions including humidity, temperature, climate quality, and also the filter fan switch control in the chicken farm. The system was found to be comfortable for farmers to use as they could effectively control the farm anywhere at anytime, resulting in cost reduction, asset saving, and productive management in chicken farming.

PUBLISHED IN : 2015 IEEE 2015 International Conference on computer

3. **TOPIC :** Smart Agriculture Monitoring System Using IOT

AUTHOR : Tanuj Manglani, Aman Vaishnav , Ajayraj Singh

DESCRIPTION : The New beginning of computing technology is arriving such as the Internet of Things (IoT). It is a kind of Global Neural Network the cloud that interfaces various gadgets. Human life and the way work have been revolutionized by the Internet in the past decade. Currently, IoT is changing the trends of human life as the use of emerging technologies which consist of heterogeneous communication devices is increasing. IoT are relevant in different strategies of agriculture. India has agriculture as its essential occupation. As per

IBEF (India Brand Equity Foundation), 58% individuals living in rural areas in India are reliant upon agriculture. The agricultural advancement is sped up with the increment in the profitability and up gradation of the plantation frameworks. The IoT has the capacity to change the world. In any case, the use of innovation like IoT in agriculture could have the best effect. Smart Agriculture is an idea wherein data and correspondence innovation is carried out to deal with every one of the exercises and cycles identified with the agriculture space. With the quick improvement of the world population, huge space of land is used to foster lodging and the capacity of creating food is decreased. Farming has gotten essential in present pattern and keeps food on the tables. Farming with IoT helps in moderating the lack of food by requesting the current land for more grounded usage at least expense. Smart agriculture is an idea that rapidly snaps on the agricultural field. In this paper present a novel design that are developing an automated system which is able to control the crop monitoring of the agriculture lands, which is quite difficult for human beings.

PUBLISHED IN : Published in: 2022 International Conference on Electronics and Renewable Systems (ICEARS)

4. **TOPIC :** Automation in Agriculture and IoT

AUTHOR : Vaishali Puranik, Sharmila , Ankit Ranjan

DESCRIPTION : Almost everything around us is touch by digitisation. The role the Technology has to play in agriculture sector is becoming more and more visible day by day. Since year of its inception communication has played an important part in agriculture, it was not just limited to in area of crop diagnostics but it has played pivotal role in the modification of age old agricultural practices. One can also witness development in various methodologies and technologies being used in the agricultural system. On the contrary, the agriculture sector in India is witnessing losing ground every day that has affected the production capacity of the ecosystem. There is an emerging need to solve the problem in the said domain to restore vibrancy and put it back on higher growth. A large-scale agricultural system requires

a lot of maintenance, knowledge, and supervision. In the given paper we are aiming to automate the Maintenance, Control of Insecticides and pesticides, Water Management and Crop Monitoring.
Published in: 2019 4th International Conference on Internet of Things: Smart Innovation and Usages (IoT-SIU)

5. **TOPIC :** Smart Agriculture System Using IoT and Cloud computing

AUTHOR : Sandeep Rathor; Shalini Kumari

DESCRIPTION : Agriculture is integral to all of us. The traditional practices involved in agriculture don't give us the best output in terms of productivity. But the technology available today can harness the true potential of any farm-land. As the population is increasing, the exploitation of resources is increasing and with limited resources, we have to produce the maximum yield. Therefore, it becomes essential that we deploy technology to our help. IOT - Internet of Things is a technology that can help us. It makes things smart by connecting physical devices to the internet. Smart systems provide accurate and up-to-date information that enables systematic decision making. IoT in combination to cloud computing can help us revive the agriculture industry.

Published in: 2021 5th International Conference on Information Systems and Computer Networks (ISCON)