IOT based smart crop protection system for Agriculture

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LITERATURE SURVEY

Introduction:

Methods of harvest forecasting have become increasingly elaborate. Highly refined statistical techniques in agriculture are now being used to extract information from past data and to project prediction values of economic variables. To a large extent, these advances in the science of harvest forecasting have been made possible by progress in IT technology. But, solitary statistical techniques do not provide perfect future situation. Therefore, it is necessary to analyze correlating monitoring crop environments with statistical information about harvest. It is expected that from IoT-based decision support system, this information on statistical pattern of crop can be obtained. The purpose of this study is to improve the agricultural forecast supporting information system, so that real-time forecast will be possible . To this end, it will be needed to manage IoT devices and gather information on them more appropriately. The IoT-based agricultural production System consists of three parts: relation analysis, statistical prediction, and IoT service. This system is designed an agricultural decision support system to predict crop growth by monitoring periodically using the IoT sensor technology.

S NO	TITLE	Authors	Abstract	Drawbacks
1	Implementation of IOT based smart crop protection and irrigation system	• Ipseeta Nanda • Sahithi Chadalavada	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.	1.Challenges in Using Smart Technologies in Farming. 2.The Smart Agriculture Cost. 3.Possibility for wrong Analysis of Weather Conditions.
2	A secure IOT data integration in cloud	Ismail chahid	Internet of Things has become one of the most emerging technologies now days, which is growing rapidly in the telecommunications field. It is as a network of physical objects, peoples, vehicles, buildings, and other items, which are having a unique identity and are able to interchange data using embedded electronics, sensors, and software equipment to reach common goals	1.Cloud applications improve collaboration by allowing groups of people to quickly and easily share information in the cloud via shared storage. 2.Plus you are assured guaranteed and timely management, maintenance, and delivery of the IT services.
3	A survey of agriculture application	Mamatha bandaru	Raspberry Pi is one of the most popular electronic prototyping boards used for prototyping the applications such as Home, Industry, research, Agriculture etc. This paper provides a summary of Raspberry Pi adoption in agriculture to aid researchers in their work for remote sensing, controlling and automation.The focus was mainly on different farming applications in which information is collected and processed to provide advice to farmers to make right decisions in right time with optimal expenditure.	1.Respondents may not feel encouraged to provide accurate, honest answers. 2.Surveys with closed-ended questions may have a lower validity rate than other question types.

4	Agriculture using IOT	Sharvane Muralidharan	Temperature and solar radiation were both monitored at the plant's head for the most accurate findings, and these were the most important elements in determining the greenhouse's sensitive microclimate.Solar radiation prediction models learning multiple machine developed and rated in nine locations representing different global climates.	1.Privacy: Even without the active participation on the user, the IoT system provides substantial personal data in maximum detail. 2.Complexity: The designing, developing, and maintaining and enabling the large technology to IoT system is quite complicated.
5	Machine learning prediction using IOT for smart farming	Abdul Rehman	Commonly, the implementation of agricultural practices (e.g., ploughing, sowing, watering, pests control, and harvesting.) purely depends on climate change, recommendations from previously experienced rules, and Governmental policies. For fulfilling Term smart farming, i), we employed real-time applications over sensors to capture climate changes of soil and atmosphere. ii) we defined agriculture practice rules by applying machine learning techniques over the last five years data iii) By federations of real-time data from the field sensors and rules, we define the time for implementation of the practice.	1.One huge disadvantage of smart farming is that it requires an unlimited or continuous internet connection to be successful. 2.It requires an understanding of robotics and ICT.
6	Greenhouse farming in Internet of Things	• Shoaib Farooq • Rizwan Javid	In recent years, the Internet of Things (IoT) has become one of the most familiar names creating a benchmark and scaling new heights. IoT an indeed future of the communication that has transformed the objects (things) of the real world into smarter devices. With the advent of IoT technology, this decade is witnessing a transformation from traditional agriculture approaches to the most advanced ones. In perspective to the current standing of IoT in agriculture, identification of the most prominent application of IoT-based smart	1.It requires high upfront and operating expenses. 2.It requires careful precautions to eliminate any pest or diseases in order to make sure that consecutive crop production does not get

			farming i.e. greenhouse has been highlighted and presented a comprehensive systematic literature review (SLR) in the Greenhouse field.	affected. .
7	An IOT based hierarchical control method for seeding production	Jingyuan Feng	The development of agriculture modernization leads to a flourish in high-tech equipment agricultural production, IoT-based greenhouse seedling production is the most presentative one. However, for the great majority of the seedling production factories, the data stream collected from IoT sensors only be applied for display, failing to assist the resource utilization and order target completion.The proposed method is easy to implement in practical production and offers a valuable reference to other precise agricultural projects.	1.It requires high upfront and operating expenses. 2.It requires careful precautions to eliminate any pest or diseases in order to make sure that consecutive crop production does not get affected.
8	Recent Trends in IoT enabled sensor technology for smart agriculture system	● Sarang Karim ● Nebhen Jamel ● Faisal Karim	Smart agriculture integrates key information communication technologies with sensing technologies to provide effective and cost-efficient agricultural services. Smart agriculture leverages a wide range of advanced technologies, such as wireless sensor networks, Internet of things, robotics, agricultural bots, drones, artificial intelligence, and cloud computing. The adoption of these technologies in smart agriculture enables all stakeholders in the agricultural sector to develop better managerial decisions to get more yield. We differentiate between traditional agriculture and smart agriculture based on the deployment architectures along with a focus on the various processing stages in smart agriculture..	1.There are potential limitations and opposition to crowdsourced studies. 2.New investigational opportunities that are not possible with traditional RCTs.
9	IoT technologies for livestock management system	● Kamran Munir ● Bernard lejsunor Akhigbe	The world population currently stands at about 7 billion amidst an expected increase in 2030 from 9.4 billion to around 10 billion in 2050. This burgeoning population has continued to influence the upward demand for animal food. Moreover, the management of finite resources such as land, the need to reduce livestock	1.Poor Internet Connectivity in Farms. 2.Disrupted Connectivity to the Cloud and High Hardware Costs.

			contribution to greenhouse gases, and the need to manage inherent complex, highly contextual, and repetitive day-to-day livestock management (LsM) routines are some examples of challenges to overcome in livestock production. The Internet of Things (IoT)'s usefulness in other vertical industries (OVI) shows that its role will be significant in LsM.	