

A Comparative Study on Internet of Things (IoT) and Its Applications in Smart Agriculture

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Abstract: Agriculture plays a vital role in country's economy and it has an extensive contribution towards human civilization. Due to the growing expansions in sensor devices, RFID and Internet protocols the architecture of Internet of Things (IoT) has been made to support agriculture by making a Smart agriculture. This paper describes the implementation of various IoT techniques and intelligent decision support systems used in agriculture. It provides a wide review on methods and technologies like ANFIS and PLSR Model predictions, experiences in various challenges as well as further work are discussed through the review article.

Keywords: Internet of Things, RFID-Radio Frequency Identification, ANFIS, PLSR, etc.

REFERENCES

- [1]. Farmers' suicides in India Wikipedia, the free encyclopedia.
- [2]. Kellman JL, Hillaire-Marcel C. "Evaluation of nitrogen isotopes as indicators of nitrate contamination sources in an agricultural watershed," Agriculture, Ecosyst. Environ. 2003;95(1):87-102.
- [3]. Alahi EE. Student Member, IEEE, Li Xie, Subhas Mukhopadhyay, Fellow, IEEE, and Lucy Burkitt, "A Temperature Compensated Smart Nitrate-Sensor for Agricultural Industry". 2017;1:7333-41.
- [4]. Dymond J, Ausseil A-G, Herzig PR A, McDowell R. "Nitrate and phosphorus leaching in New Zealand: A national perspective," New Zealand J. Agricultural Res. 2013;56(1):49-59.
- [5]. Yan-e YD. Design of Intelligent Agriculture Management Information System Based on IoT Fourth International Conference on Intelligent Computation Technology and Automation. 2011;1:1045-9.
- [6]. Xiangyu Hu, S. Q. (n.d.). IOT Application System with Crop Growth Models in Facility Agriculture. IEEE 14.
- [7]. Rifaqat A, Arup KP, Saru K, Marimuthu K, Mauro C. "A Secure Authentication and key agreement scheme using WSN for agriculture Monitoring". 2017;1:1- 16.
- [8]. Li X, Niu JW, Ma J, Wang WD, Liu CL. Cryptanalysis and improvement of a biometrics-based remote user authentication scheme using smart cards. Journal of Network and Computer Applications. 2011;34(1):73-9