

INTELLIGENCE AGRICULTURE FIELD MONITORING AND CONTROL SYSTEM USING IOT

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ABSTRACT- Agriculture is becoming an important growing sector in our country. The farmer has improving quality and quantity of the crop productivity and farmland using IOT deal with hostile situation. Sensor nodes for used in genetic algorithm. It work present an intelligent farmland monitoring and control using some various sensors. They three algorithm using to without human intervention and protect the farmland and their information stored in cloud for future data analysis. **Keywords-** Sensor, genetic, hostile, intervention, IOT.

I. INTRODUCTION

As the improving new technologies in day to day life and trend up in agriculture also. Major challenge in quality farming is unpredictable weather and environmental conditions. The gathered data provide various environment factor. More researched using some sensors to getting information and control agriculture field. Moreover, humidity is one of the major environmental parameter in farming as it affects the turgor pressure of plants, which is an indicator of the amount of water in plant cells. When the amount of humidity air is low, transpiration takes very quickly. Due to high rate of transpiration, plants wilt rapidly as too much water is pulled out from plant cells. The rate of transpiration is reduced which in turn restricts evaporative cooling. Automation in agriculture is not achieved various issues. The all research not given to the farmers to get product benefits. Hence this paper describe about improving farmland using IOT.

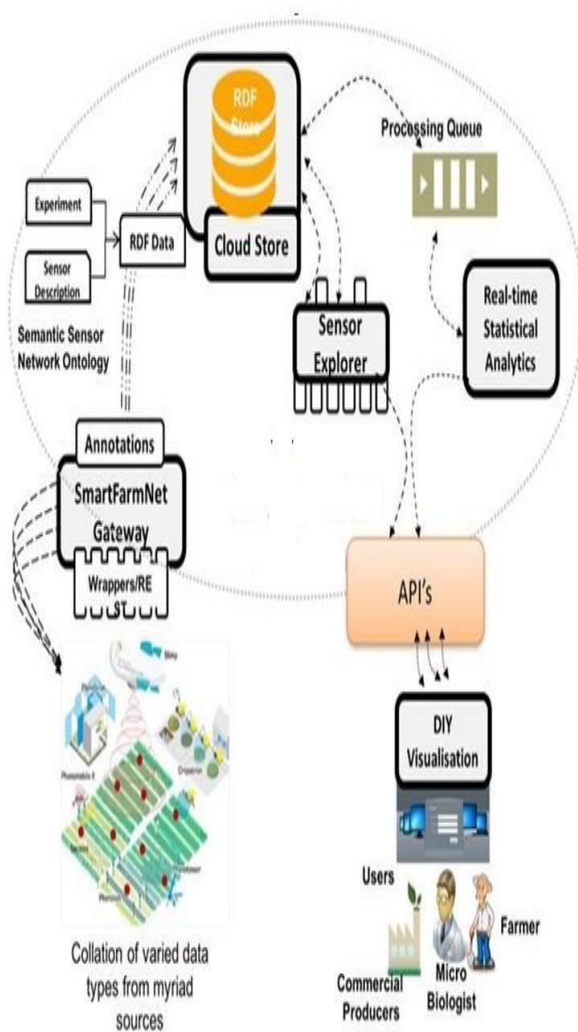
II. LITERATURE SURVEY

The existing system, the oldest ways in agriculture is manual method of checking the parameter. In this method farmer can be verify all the parameters automatically. [1] it is smart agriculture using GPS, sensor, security, irrigation facilities and controlling parameters.[2] It is using design of a new secure factor. Analysis under the formal security accepted ROR model.[3] It is used to protect crops during unavoidable natural disaster and introduce technology on farmland. [4] This product used to predict and analysis the green houses parameters and quality & quantity of crops grows.[5] The crop management had been efficient to systematic monitoring and cultivation on analyzed data. Easily to protect dry land from embedded with hyper spectral, multispectral sensors.[6] Optimize the water fertilizers and the yield of the crops and also analysing the unpredictable weather conditions of the crop field.

III. PROPOSED WORK

In this project, various sensor are used in the field like temperature sensor, soil moisture sensor, humidity and ultrasonic sensor. All parameters collected from sensors are connected to the microcontroller. In control section, the received data verified the value. Gathered information to operate ON button to supply fertilizer above crops. LED starts to blink Then values of buzzer is switched ON and OFF send intimation to the farmer automatically from the web page. In manual mode, the user have to switch ON and OFF the

microcontroller by android application. It is help with IOT server. In automatic mode, to supply water daily in farmland by using sensors. They water can be automatically switch ON and OFF. After the microcontroller is started and all messages send to the user. Other parameters like the temperature, soil moisture, humidity and ultra sonic sensors shows the water level of soil and fertilizers of plants is used and just to indicate level of fertilizer inside a tank.



IV. MODULES

1. DATA SET

A data set (or dataset) is a collection of data. A data set is a collection of related, discrete items of

related data that may be accessed individually or in combination or managed as a whole entity.

2. TRAINING DATA

Every machine learning model needs to be tested in the real world to measure how robust its predictions are. This is data that it has never seen before. Just as a student comes across fresh problems while in an exam, models too, need to be similarly challenged so as to evaluate their performance.

3. POLYNOMIAL ANALYSIS

It permit to understand the identified features input data moreover, it allows to evaluate the performance of dimensionality reduce the number of technology is taking a tremendous growth across the horizons. So this technology can be utilized for making agriculture easier.

4. SATISFIED REGRESSION

Regression Analysis can be defined as a structured approach which stresses on the analysis of data for the research purpose on decision making and problem solving. The capable of fitting both linear as well as polynomial relationships, is the most commonly used linear regression.

5. ENVIRONMENT MEASUREMENT

Agri-Environment measures are designed to encourage farmers to protect and enhance the environment on their farmland. Irrespective of area, there are clearly many measures which will have positive impacts both in reducing environmental risks with respect to soil and water and in protecting nature e.g. maintenance of hedges. Agri-environment commitments have to go beyond usual Good Farming Practice. Usual Good Farming Practice is defined as encompassing mandatory legal requirements and a level of environmental care that a reasonable farmer is expected to apply anyway.

V. ALGORITHM

1. FUZZY ALGORITHM

It is a form of many valued logic in which the truth values of variables may be any real

A humidity sensor senses, measure and reports both moisture and air temperature. A capacitive humidity sensor measures relative it by placing a thin strip of metal oxide between two electrodes. To detect the moisture and air temperature to send data that helps farmers monitor and optimize crops.

6. MAX232

It is an integrated circuit which converts the signals from the RS232 serial port. They are given and getting clear data proper signal which are used in TTL compactable digital logic circuit. It is dual driver /receiver and they convert signal like Rx, Tx, CTS and RTS.

VII. SOFTWARE USED

1.MPLab

It is the package that has been designed specifically for the development of software for the PIC series of microcontrollers. Easy to use, incorporating editor, assembler and simulator and programming software.

2. PROTEUS

It is used by electronic design engineers and technicians to create schematics and electronic prints for manufacturing printed circuit board. It is used to check coding correct or not. In this embedded designs for electronics before actual network testing simulators avoid damaging network and wrong design. In system , they are used to API to communicate software and hardware.

VIII. EXPERIMENTATION AND RESULT

The all hardware device connected in microcontroller board like buzzer, sensors, LED, ADC converter, transistor. It is inserted SIM card which used to communicate with owner and recoded value. The circuit board connected to mobile application and send /receive the instruction display on mobile phone.

IX. FUTURE WORK AND CONCLUSION

In farmland for future development of the technological improvement is a mandatory work to improve the crop productivity. Most of the sensors technology does not offers on the data mining technique and predictive analysis, which limits the data usage accurate state of the field and crops.

Gathers data from physical sensing devices is mitigated in the cloud. Machine learning technique has in real time product not only the alerts corresponding to the current state of the environment and the crop but at the same time can offer predictive analysis of the future state of environment as well as crops template format.

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