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SMART AGRICULTURE MONITORING SYSTEM AND LEAF DISEASE DETECTION

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Abstract: Every country is trying to reduce its consumption of fresh food. Now farmers manage the water flow and water their farms regularly and on time. The wastewater must contain a lot of water from the process. The electronic model will monitor the quality of the soil and the crop from the soil moisture and will also display the soil quality.

INTRODUCTION

The Latin words “Ager” and “Culture” are the roots of the English word “agriculture” meaning “plant”. It includes the art and science of raising animals and crops for profit.

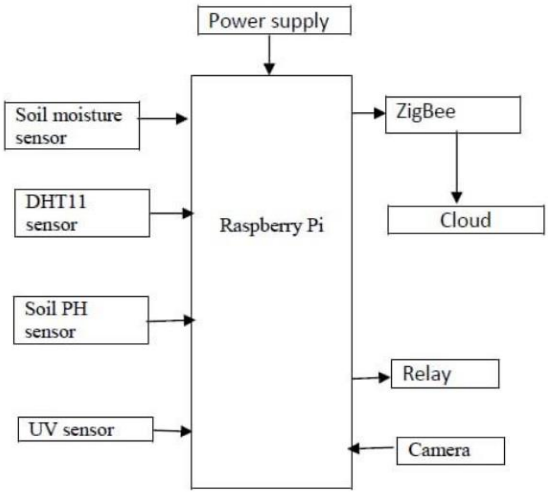
The development of agriculture is a revolution in human civilization and allows people to live in a unique environment. The main purpose of agriculture is to increase the strength and productivity of crops and plants, helping them grow by providing moisture and improving the soil. The Indian economy is predominantly based on agriculture. About 64% of India’s population depend on agriculture to provide them with food. The same goes for Indian agriculture, which is currently facing two major challenges. The first is to feed the growing population, the second is to feed 4,444 people with goods, and the third is irregular agriculture and land use for agriculture. Through the five-year plan, India sought agricultural self-sufficiency. Since the founding of the People’s Republic of China, many countries have promoted the development of agriculture in the five-year plan and listed agriculture as a key to the development of agriculture in particular. Due to insufficient rainfall, lack of infrastructure and uneven distribution, poor agriculture. This leads to conflict between small and large farmers. However, with modern technology, old methods are still used in agriculture. Our farmers continue to use very old practices such as co-sown, planting, double crop and tillage techniques. Using science in agriculture can increase crop yields through

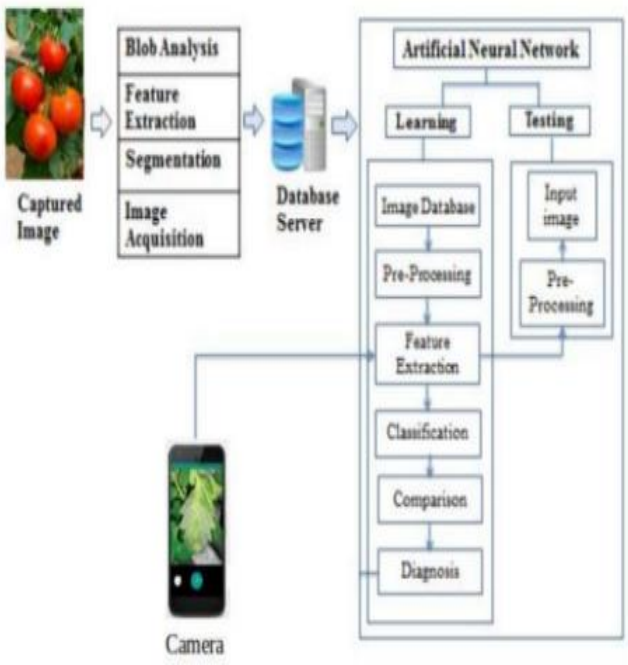
better farming methods. The power of IoT to change the current agricultural situation is the most important of its many advantages. This approach focuses on environmental education to improve agriculture. It turns out that protecting the environment for agriculture alone is not enough because there is so are much more key features.

EXISTING SYSTEM

Farmers see IoT as a smart agriculture. Depending on the environment, changes in climate such as humidity, temperature and humidity may occur. The system can also identify the type of disease causing crop failutre. The system creates water services based on data from weather databases and actual data stored in the field. This strategy helps educate farmers on the importance of water use. A constant internet connection is required. This can be prevented by disseminating distribution system to farmers' mobile phones through newspapers instead of mobile phones.

CONCEPT ARCHITECTURE





Dataset collection and creation means that a dataset is a large collection of raw data that must be processed to create something useful from it. The information used in our body is a collection of many pictures of a leaf related to a health disease.

LITERATURE REVIEW

In **2015 Prem Prakash , Jayaram, Doug Palmer, Arkady Zaslavsky** introduced the concept of phonets, a network of smart intelligent wireless sensor nodes that share information with the centre.

In **2016 Jinsoohan** published a method that helps to improve the use of electricity for the preparation of electronic components of electronic equipment.

In **2017 N.K. Suryadeva, S.C. Mukhopadhyay** provided quantitative calculations, data collection, etc. to monitor environmental conditions and presented a statement based on principles.

In **2018 Ritika Shrivastava ,Vandana Sharma, Visual Jaiswal, Sumit Raj** presented a paper on creating a system that can monitor temperature, water level, humidity and even movement in the any field for anything that could harm crops.

In **2019 Jayakumar R, Karthikeyan S.N, Naveen Perumal M, Methini M** presented a paper on remote soil moisture monitoring system to improve soil moisture less to ensure adequate water availability for crops and prevent crop damage.

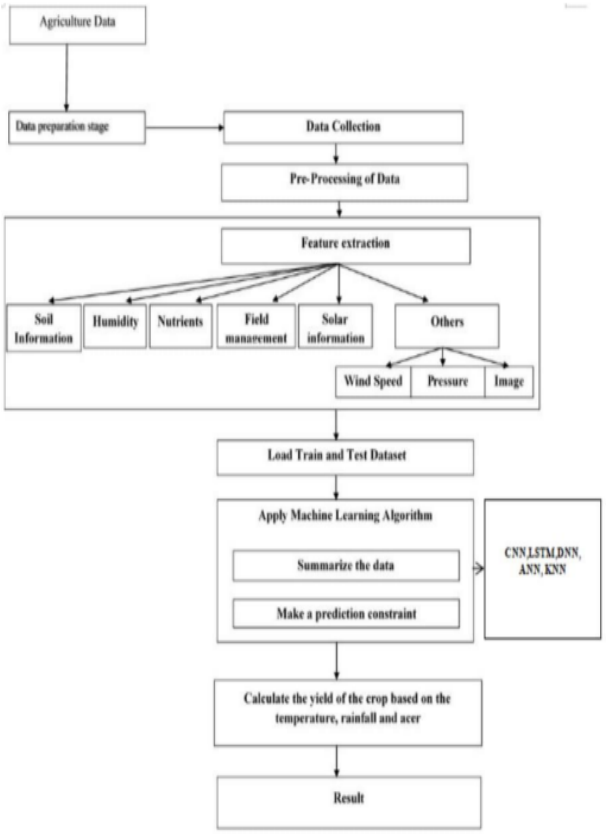
In **2020 Aman Jain, Abhay Kumar** using IoT to identify additives and mineral composition affecting crop yield and growth and plan a way to photograph and monitor home appliances on the Genesis network.

In **2021 Dr.Priyanka Bhardwaj** presents an article in which soil moisture and moisture sensors are places in the root zone of plants.

Adarsh Srivastava presented a paper in which soil parameters such as pH, moisture and temperature are measured achieve high soil fertility. This process is completely automated.

IMPLEMENTATION

CROP YIELD ESTIMATE:



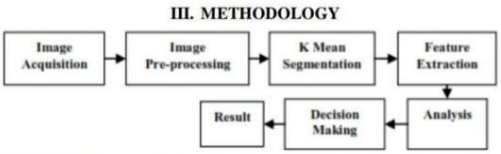
Algorithm:

Classification Stage:

xn Show x1, x2,

Return Class for all unknown models

Leaf Disease Detection:



(Fig. 1) Block Diagram of Steps Involved in Plant Infection Detection System

Load Image from Auxiliary Small Group. Gray Level Co-occurrence Matrix (GLCM) is a type pf

texture analyses. Create a feature-based grayscale matrices for a color images and measure the spatial distance between pixels. GLCMs represent distance and angular spatial relationships in one-dimensional images. GLCM counts how many pixels appear in grayscale. Depending on the nature and plant, its horizontal value is indicated as "i" and its vertical or diagonal adjacent value as "j". There must be a special way to protect plants from diseases. The decrease in the harvest also affects the country's economy. Automatic detection of leaf diseases should be investigated accurately. The main purpose of this system is to improve malware detection. Test results show that app identifies viruses with 98.2 percent accuracy. In future studies, we will expand our dataset to identify plant diseases and use the additional data for classification training. When we add the training data to the system, the accuracy rate will be high. We can compare the precision and speed of the machines.

RESULT

This study contains detailed information from different types of research on Knowledge Management. Crop and resize crop symbols, these options are often depend on data availability, but using more symbols will not yield better results. Therefore, at least the best results that were also used in the study were determined. For CYP, existing models mainly use neural network, random forest and KNN regression methods, but have also been optimized using various machine learning methods.

CONLCUSION

This study demonstrates the various models included in temperature, climate and design for good results. Finally, the clinical trials have shown that combining ML with agriculture can increase the success rate of cultivation. However, for the effect of temperature on agriculture, breeding must be improved. Next, the machine learning process is used to create the parameters of the model and finally the features of the decision making model are used to obtain the best CO2 fertilization. Further research will improve agricultural forecasts based on the above targets. In addition, fertilizers should be included in the soil crop yield estimates by agronomists to allow better decisions based on low estimates.

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