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Crop Yield Prediction Using Datasets for Small Scale Farmers

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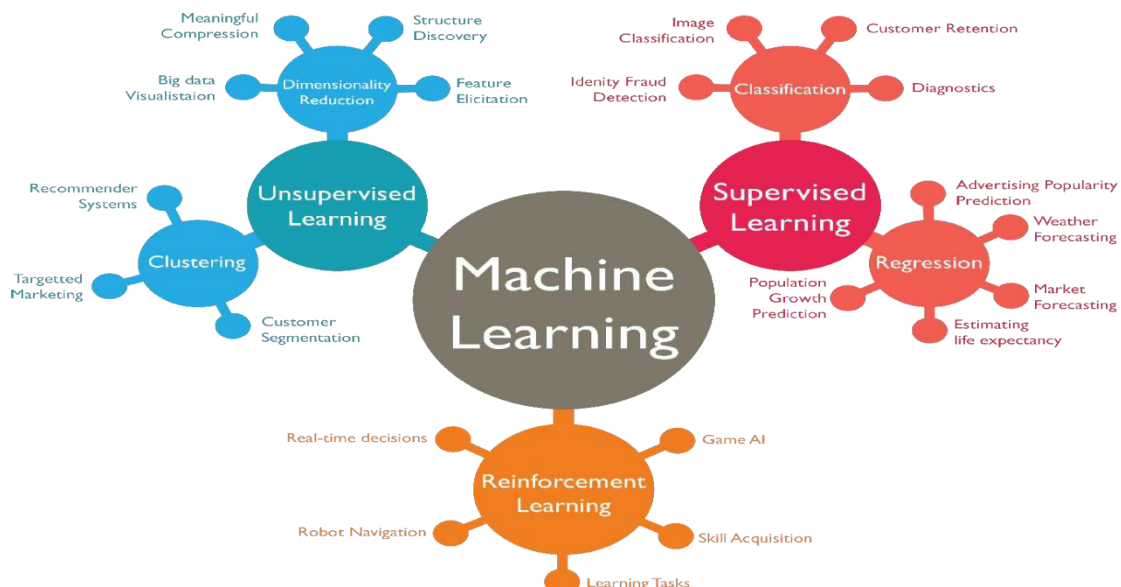
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ABSTRACT: Our agricultural production is dispersed, agricultural consumption is diversified, and connection and docking are poor between small-scale production and market. We propose the agricultural marketing information recommendation system based on cloud computing in order to provide accurate recommendations for farmers. We propose a system to intimate farmers about the crops to be seeded in the specific season and also make the farmers aware of the current market rate of the product. This type of system is much beneficial for the young generation to adapt to the traditional farming technique. Farmers must be well organized and able to manage all the details of the farm and be certified from certified organizations by providing information that covers a period from the seeding process to the multiple farming activities until post-harvest management.

I. INTRODUCTION

Machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it to learn for themselves. The process of learning begins with observations or data, such as examples, direct experience, or instruction, in order to look for patterns in data and make better decisions in the future based on the examples that we provide. The primary aim is to allow the computers learn automatically without human intervention or assistance and adjust actions accordingly. But, using the classic algorithms of machine learning, text is considered as a sequence of keywords; instead, an approach based on semantic analysis mimics the human ability to understand the meaning of a text.





II. LITERATURE SURVEY

1. In the year 2020 Deepak Murugan, Akanksha Garg, and Dharmendra Singh has proposed For better agricultural productivity and food management, there is an urgent need for precision agriculture monitoring at larger scales. In recent years, drones have been employed for precision agriculture monitoring at smaller scales, and for past few decades, satellite data are being used for land cover classification and agriculture monitoring at larger scales. The monitoring of agriculture precisely over a large scale is a challenging task. In this paper, an approach has been proposed for precision agriculture monitoring, i.e., the classification of sparse and dense fields.

2. In the year 2017 Hubertus Siebald, Oliver Hensel, Frank Beneke, Luise Merbach, Christian Walther, Sascha M. Kirchner, and Jochen Huster has proposed Cutting processes are among the most important crushing procedures in harvesting technology. Common practice attempts to identify the time for regrinding crop cutting blades do not often lead to the desired results. Continuous monitoring of the cutter bars in harvesting machines could provide the optimal regrinding time to maintain cutting performance and to achieve preferably long maintenance intervals. In this study a method for the real- time acoustic monitoring of the sharpness of crop cutting blades is shown based on an analytical simulation, acoustic measurements and statistical analysis.

3. In the year 2020 Nived Chebrolu, Thomas L'abe, and Cyrill Stachniss has proposed Continuous crop monitoring is an important aspect of precision agriculture and requires the registration of sensor data over longer periods of time. Often, fields are monitored using cameras mounted on unmanned aerial vehicles (UAVs) but strong changes in the visual appearance of the growing crops and the field itself poses serious challenges to conventional image registration methods. In this paper, we present a method for registering images of agricultural fields taken by an UAV over the crop season and present a complete pipeline for computing temporally aligned 3D point clouds of the field. Our approach exploits the inherent geometry of the crop arrangement in the field, which remains mostly static over time. This allows us to register the images even in the presence of strong visual changes. To this end, we propose a scale-invariant, geometric feature descriptor that encodes the local plant arrangement geometry.

4. In the year 2016 D. Herrera, S. Tosetti and R. Carelli has proposed In the present article, it is presented the modeling and identification of an autonomous vehicle that has been designed for agricultural tasks. With the purpose of defining the best model structure, different models have been presented. Particularly, it is assumed that the lateral and longitudinal dynamics are decoupled dynamics, and based on this assumption these are modeled and identified in an isolated way. Particular emphasis was made in lateral and rotational dynamics. The vehicle under study is a quadricycle (ATV) that has been modified and adapted to work in an autonomous way. It has been presented simulation proofs and experimentation with the real vehicle that allows guaranteeing the performance of the developed models.

III. PROPOSED METHODOLOGY DISCUSSION

In the existing system the crops, weeds, pest damages, diseases and nutrient deficiency in plants are identified individually by kinds of prototype like robots, expert systems, remote sensing and vice versa In some cases the identification is related to specific plant species In existing system the models are expensive. The crops are identified only at fully grown stage ie., the automatic identification during agricultural season is not possible which is an important issue. Disadvantages of existing system are External hardware is used Very Expensive.

We propose the agricultural marketing information recommendation system based on cloud computing in order to provide accurate recommendations for farmers. We propose a system to intimate farmers about the crops to be seeded in the specific season and also make the farmers aware of the current market rate of the product. This type of system is much beneficial for the young generation to adapt to the traditional farming technique. Bidding is a tedious task but our proposed system gives the actual market rate and then it clarifies the user about the current market rate to avoid the farmer bidding or getting cheated by the retailers. Advantages of Proposed System Avoid bidding problem flexible to users Cost is not the issue because of the web based application.

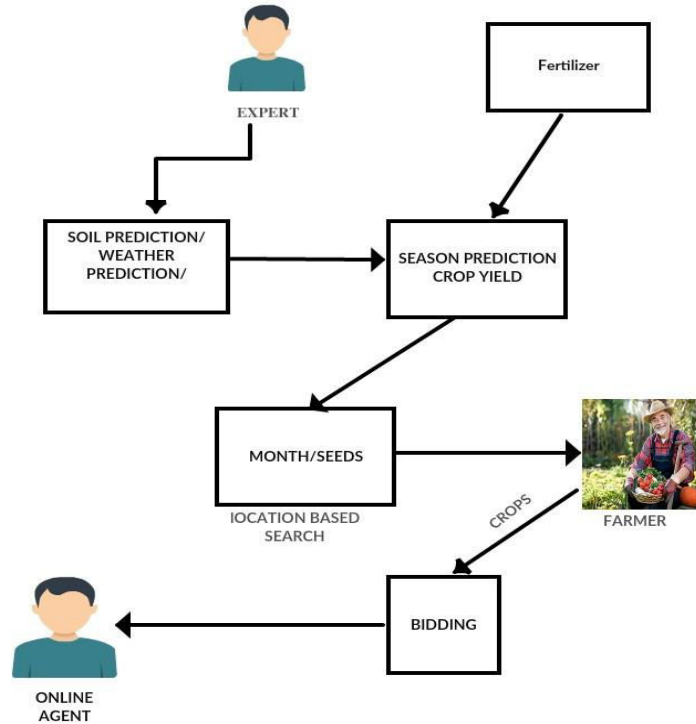


Fig 2 Architecture diagram

In the Existing System they have been analyzing through sensors and by manual testing, so this may consume time to predict. In our proposed system we are using Data Sets of 20 years and can able to predict the seasonable crops and also suggesting the alternative crops for farmers to get more benefits. In the Existing System we can identify the crops outcome only when the crop or plant is grown fully or partially, but in the proposed system we can able to predict using datasets before it is planted. In the Existing system farmers may not aware of the market price and can be cheated by retailers, to avoid these consequences in our proposed system we can able to deal directly with the buyers and bid the amount based on our profit and requirements.

ADMINISTRATOR ENDORSEMENT: Maximum the bidding can be done with three buyers so the farmer can pick the cost according to his profit. The farmer will register in the website with their own details like username, password, contact details, address details. The admin will verify the details and approved. Then only farmer can sign in and ask for a query with expert. The farmer can also query about the fertilizer and also much related information about the agriculture.

MONITOR AND MAINTAIN THE CROPS: Farmer can now get online information on the amount of fertilizers that they must apply to a particular kind of soil and crop from the expert. This will help them overcome the problem of over use of fertilizer that is eroding soil health. We developed a web based system that calculates the quantum and quality of fertilizers that should be applied to the soil for targeted yield.

PREDICT AND DETECT PESTS: Farmer can search based on their location and the information will be retrieved based on the location accessed. This Will give the information about crops ,fertilizers and time limit of the crops to be grown.

ONLINE COMPUTERIZED AGRI-AUCTION PORTAL: Make farmers get the best price for their products. Farmers get to know the demand in the market of the products they are selling. This will help them to concentrate on the crops which is in high demand. The Online Bidding Application helps the farmers meet the customers directly.



Farmers can choose their customers who quote more i.e. they can choose whom to sell their products on the basis of the price the customers are ready to pay.

FERTILIZER EXPERT SYSTEM:A more practical option is to make better use of the land currently devoted to agriculture, although this also faces some challenges. There will be sub-sector development for agriculture such as seed production, organic fertilizer production, aggregation of produce and primary processing, poultry production, etc. All these information will be contributed to the farmer to energize the local economy for multiplier effect out of the agriculture land and crop details.

IV. EXPERIMENTAL RESULTS

Figure 1 shows the results of Location based crops for the farmers figure 2 shows the query expert page figure 3 shows the data sets included for prediction.

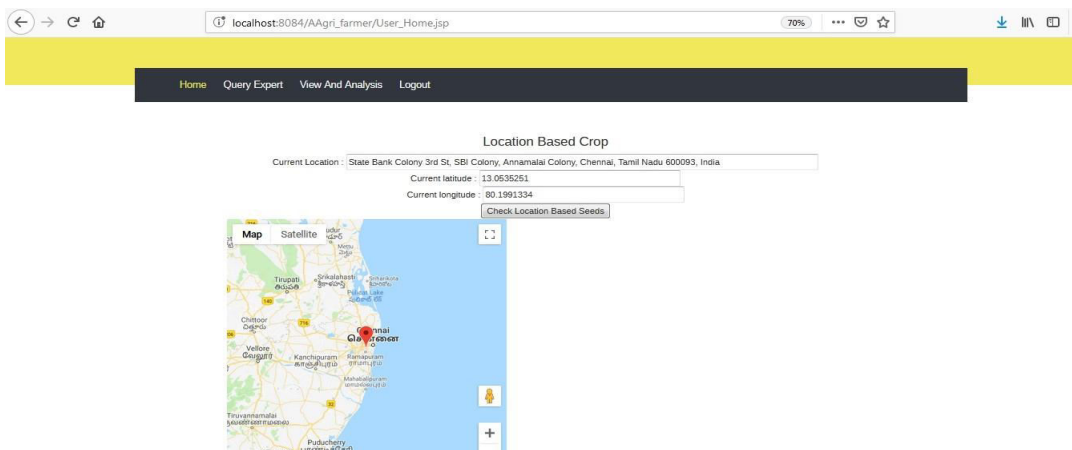


Fig 3 Location Based Search

This figures gives us the location based search for crop to the famers.

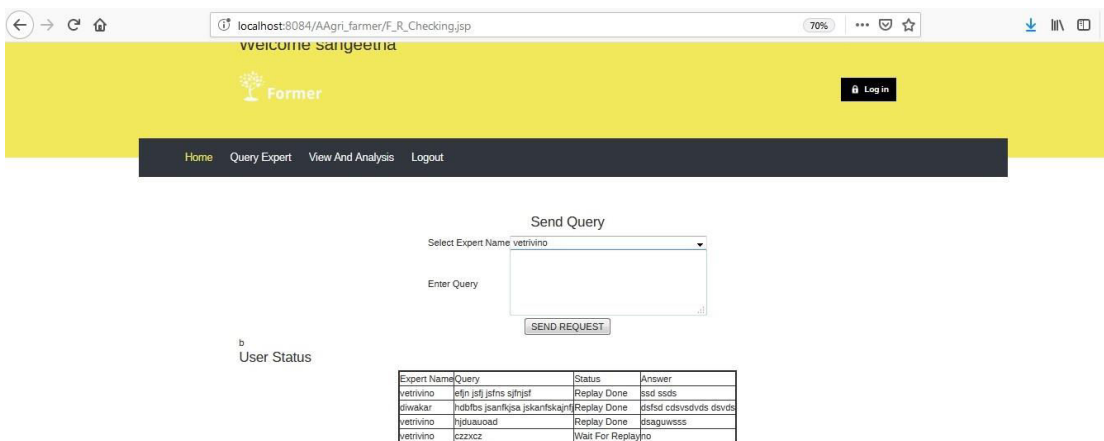


Fig 4 Query Expert Page



This page gives us the expert information for the crops to be selected.

The screenshot shows a web browser window with the URL localhost:8084/AAgri_farmer/analysis.jsp. The page has a yellow header with the 'Former' logo and a 'Log In' button. Below the header is a navigation bar with 'Home', 'Query Expert', 'View And Analysis', and 'Logout'. The main content area is titled 'Check Time line data' and contains a 'Send Query' section with dropdown menus for 'Select District' (set to 'Thanjavur') and 'Select Weather' (set to '32.4'). A 'SEND REQUEST' button is located below these menus. Below the button is a table titled 'Data Set Status' with the following data:

district	season	month	varities	seeds	year	weather	water_level
Thanjavur	Kuruvai	Jun -Jul	ADT 36, ADT 37, ASD 16, ASD 18, MDU 5, IR 50, ADT 43, ADT (R) 45, ADT (R) 47, ADT (R) 48, CO 47, CORH 3	rice	2016	32.4	40
Thanjavur	Samba	Aug	White Ponni, CO 43, CR 1009, ADT 38, TRY 1*, TRY 3*, ADT (R) 44, CORH 4, CO (R) 48, CO (R) 49, CO (R) 50, ADT (R) 49, TNAU Rice ADT 50, Swama sub1	rice	2016	30.1	30
Thanjavur	Late Samba / Thaladi	Sep -Oct	ADT 38, ADT 39, TRY 1*, TRY 3*, ADT (R) 46, ADT (R) 49, CO (R) 48, CO (R) 49, CO (R) 50	rice	2016	29.7	45
Thanjavur	Navarai	Dec -Jan	ADT 36, ADT 37, ASD 16, ASD 18, MDU 5, CO 47, CORH 3	rice	2016	25.0	50
Nagapattinam	Kuruvai	Jun -Jul	ADT 36, ADT 37, ASD 16, ASD 18, MDU 5, IR 50, ADT 43, ADT (R) 45, ADT (R) 47, ADT (R) 48, CO 47, CORH 3	rice	2016	32.4	20
Nagapattinam	Samba	Aug	White Ponni, CO 43, CR 1009, ADT 38, TRY 1*, TRY 3*, ADT (R) 44, CORH 4, CO (R) 48, CO (R) 49, CO (R) 50, ADT (R) 49, TNAU Rice ADT 50, Swama sub1	rice	2016	30.1	35

Fig 5 Data Sets for Prediction

There is a Data sets for prediction to choose the crops based on the season.

V. CONCLUSION

Technology advances in agriculture is leveling the playing fields for small scale farmers in rural areas. The number of users who adopt such technology, however, is still relatively low. Understanding the factors promoting or limiting the acceptance and adoption of new information system is a key challenge.

VI. FUTURE ENHANCEMENT

The next step in the design process will involve detailing and specifying the information flows inherent in the proposed information system and using formal hard-systems modelling approaches such as UML to produce detailed specifications of each of the identified components.

REFERENCES

1. A New Crop Classification Method Based on the Time-Varying Feature Curves of Times Series Dual- Polarization Sentinel 1 Data Sets. Jul 2020.
2. Baggio, “Wireless sensor networks in precision agriculture,” in Proc. ACM Workshop Real-World Wireless Sensor Netw., Stockholm, Sweden, 2005, pp. 1567–1576.
3. Gunther, T. Pietsch, and J. Teichmann, “Method for e.g. determining 96 degree of wear i.e. blunting, of rotary blade in field chopper in 97 agricultural field, involves determining reduction of width of blade back 98 side and distance from blade to counter blade from parameters of curve,” 99 Patent 201 110 005 317, Sep. 13, 2012.
4. McBratney, B. Whelan, T. Ancev, and J. Bouma, “Future directions of precision agriculture,” *Precis. Agric.*, vol. 6, pp. 7–23, Feb. 2005.
5. Oliva, “Verfahren zum Feststellen der Scharfe von H ackselmessern,” 94 Patent 19 903 153, Mar. 16, 2000. 95.



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