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AGRI HARVEST HELPER

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Abstract : Agriculture is a growing field of research. In particular, crop prediction in agriculture is critical and is chiefly contingent upon soil and environment conditions, including rainfall, humidity, and temperature. Our projects helps the farmers to predict the crop prediction. The user should enter the details i.e. region name, season, yield prediction level, crop name then the output will display whether based on the above conditions the particular crop is suitable to grow in that region or not. And user can also predict the crop based on temp, ph, rainfall, humidity, nitrogen, phosphorus, potassium and result is displayed as what crop is suitable for the above conditions. The project also includes the chatbot system, where the users can clarify their queries regarding the crops.

Keywords – Decision tree classifier, Gradient boosting , K-nearest neighbors, Naive bayes, SVM.

I. INTRODUCTION

Crop prediction in agriculture is a complicated process and multiple models have been proposed and tested to this end. The problem calls for the use of assorted datasets, given that crop cultivation depends on biotic and a biotic factors . Biotic factors include those elements of the environment that occur as a result of the impact of living organisms directly or indirectly, on other living organisms. A biotic factors also include bedrock, relief, climate, and water conditions - all of which affect its properties. Soil-forming factors have a diversified effect on the formation of soils and their agricultural value.Fig1 shows the methodology and implementation of weapons detection using deep learning.There are different challenges in this research area. Currently, crop prediction models generate actual results that are satisfactory, though they could perform better. This paper attempts to propose an enhanced crop prediction model that addresses these issues. The prediction process depends on the two fundamental techniques of feature selection [FS] and classification. Prior to the application of FS techniques, sampling techniques are applied to balance an imbalanced dataset.

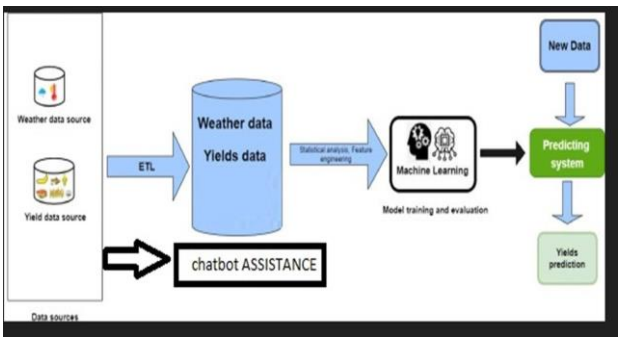


Fig:1 System architecture

II. SYSTEM ANALYSIS AND EXISTING SYSTEM

The methodology enhances existing procedures in three different ways. To begin with, a remote detecting network is applied to propose a working methodology. Next, a novel dimensionality reduction procedure is presented that uses a convolutional neural network (CNN) alongside long-term memory. Finally, a Gaussian process is used to investigate and examine the spatio-transient structure of the data and enhance its accuracy. Anantha *et al.* [16] implemented a recommendation system using an associate ensemble model with majority voting. The random tree, Chi-square Automatic Interaction Detection (CHAID), kNN, and Naive Bayes (NB) are used as learners to help determine the most appropriate crop, taking into consideration soil parameters, with the results showing high accuracy and potency. The classified image generated by these techniques consists of ground truth-applied mathematics information Further, it incorporates such data as the parameters of the square measure in terms of the weather and crop yield, as well as state and district-wise crop produce.

III.PROPOSED SYSTEM

Boruta is a random forest-based classification algorithm that involves the voting of versatile unbiased indistinct classifiers in decision trees. The importance of a characteristic is estimated by calculating the loss of classification exactness caused by the random permutation of attributes within objects. The average and standard deviation of the loss of accuracy are calculated, and the average loss is divided by the standard deviation to obtain the Z score to measure average fluctuations in mean accuracy loss among crops.

IV.IMPLEMENTATION MODULE DESCRIPTION

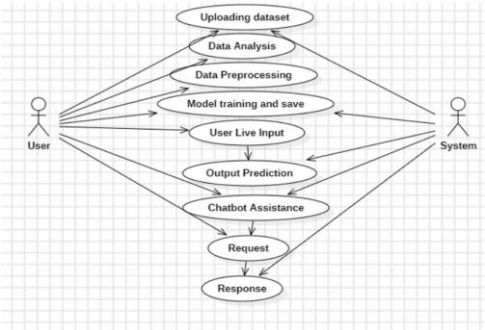
Service Provider: In this module, the Service Provider has to login by using valid user name and password. After login successful he can do some operations such as Login, Browse and Train & Test Crop Data Sets, View Trained and Tested Crop Datasets Accuracy in Bar Chart, View Trained and Tested Crop Datasets Accuracy Results, View Prediction Of Crop Type ,View Crop Type Ratio, Download Predicted Data Sets, View Crop Type Ratio Results, View All Remote Users.

View and Authorize Users: In this module, the admin can view the list of users who all registered. In this, the admin can view the user's details such as, user name, email, address and admin authorizes the users.

Remote User: In this module, there are n numbers of users are present. User should register before doing any operations. Once user registers, their details will be stored to the database. After registration successful, he has to login by using authorized user name and password. Once Login is successful user will do some operations like REGISTER AND LOGIN, PREDICT CROP TYPE, VIEW YOUR PROFILE.

V.SYSTEM DESIGN IMPLEMENTATION

1)USECASE DIAGRAM:



2)ACTIVITY DIAGRAM:

VI.RESULTS AND DISCUSSION

1.First the user should enter the login details.

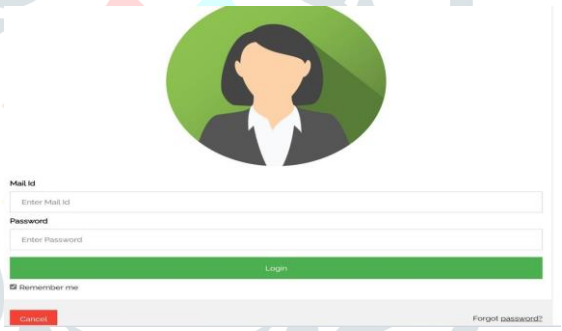


Fig:2 Home page

2.The user should enter the below details .

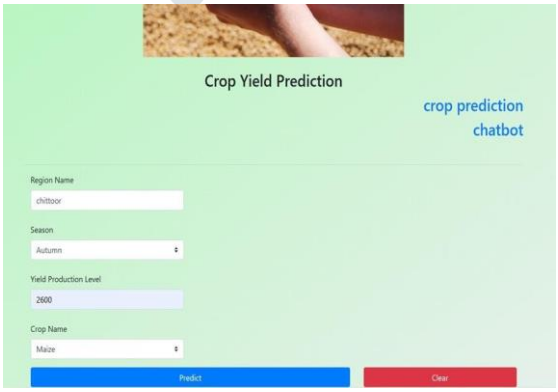


Fig:3 Page after login

3.The output is displayed whether the particular crop is good/bad on above mentioned conditions.

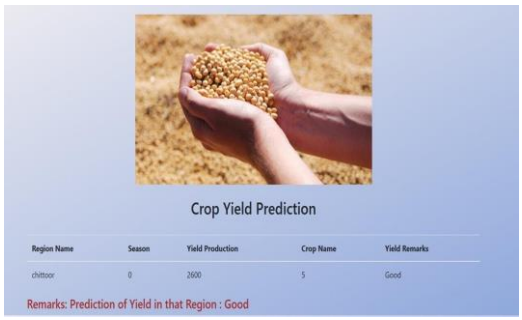


Fig:4 Ouput for the above page details

4.The next page is crop prediction.

Fig:5 Crop prediction

5.The output is displayed as what type of crop is suitable for above conditions.

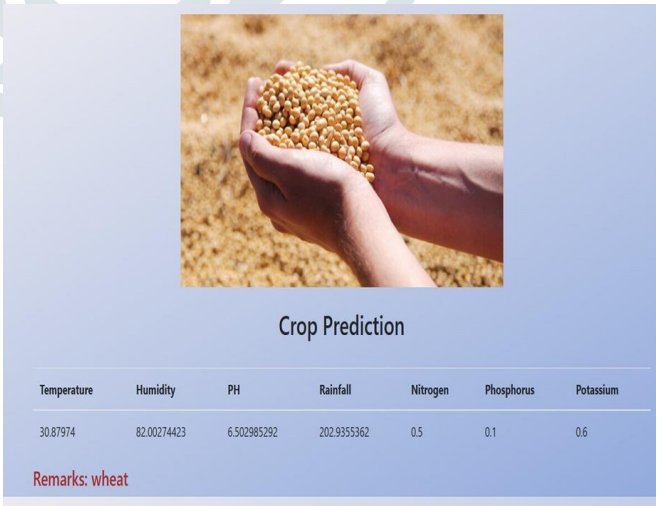


Fig:6 Crop prediction result

6.The next page is chatbot, user can clarify their queries.

Fig:7 Chatbot

7.It displays the message related to the crop we entered.

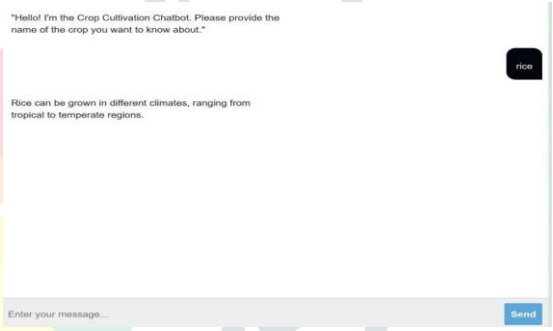


Fig:8 Displayed message

VII. CONCLUSION

Predicting crops for cultivation in agriculture is a difficult task. This paper has used a range of feature selection and classification techniques to predict yield size of plant cultivations. The results depict that an ensemble technique offers better prediction accuracy than the existing classification technique. Forecasting the area of cereals, potatoes and other energy crops can be used to plan the structure of their sowing, both on the farm and country scale. The use of modern forecasting techniques can bring measurable financial benefits.

V111. REFERENCES

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