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Crop Yield Prediction using Machine Learning

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Abstract : Agriculture is considered to be one of the most advanced and advanced industries made in India. But it is also the result of climate change and its unpredictability has had a profound impact on agriculture. Therefore, crop prediction has become increasingly important an important step towards more efficient crop production and management. This pa, therefore, proposes a brief analysis of yield predictions using a study machine Algorithm such as Support Vector Machine Algorithms.

IndexTerms **- Deep Learning, feature extraction, SVM (Support Vector Machine), disease detection, etc.**

I. INTRODUCTION

Predictable Analysis To increase productivity and crop efficiency, agricultural systems work very well. Earlier the yield prediction was done on the basis of farmers' past experience. The population, however, is slowly rising, over time plant production is declining day by day. Traditionally, farming is inclusive of planting or harvesting according to a fixed schedule. Accuracy Agriculture requires real-time data collection of weather, air quality, soil, yield maturity, equipment, labour costs, and availability of current data. This analytic prediction can be used to make wise decisions in the agricultural sector. Farmers, through their experience, disease forecasting; however, this is also not the right approach. Oculus expert monitoring is the most widely used method of detection once diagnosing plant diseases.

II. LITERATURE SURVEY

In the present system, there is no computer program for diagnosing plant disease, e.g., we have already mentioned, the most popular existing MIL methods with neural networks manage different situations as inputs, and then use the deep neural network to transform them instead of embedding. In the existing system, the basic learning model of the machine is used disease prediction instead of numerical data.

Agriculture yield prediction using predictive analytic techniques.
Authors: S Nagini, T.V.R.Kanth, B.Kiranmayee
A lot of Explorative Data Analysis is done and various predictive models were designed. Further various regression models like Linear, Multiple Linear, Non-linear models are tested for effective prediction.

IBM Research - A Scalable Machine Learning System for Pre-Season Agriculture Yield Forecast.
Authors: Igor Oliveira, R.L.F. Cunha, Silva, Marco A. S. Netto
The yield forecast is essential to agriculture stakeholders and can be obtained with the use of machine learning models and data coming from multiple sources.

Analysis of Soil Behavior and Prediction of Crop Yield using Data Mining Approach.
Authors: Monali Paul, Santosh KV

Introduced that Data mining in the agriculture field is somewhat a novel research field. Data mining is the process of discovering unknown and likely impressive patterns in large datasets

III. METHOD

This project actually practically shows the technical presentation of crop yield prediction using the Support Vector Machine Algorithm.

The statistical agricultural dataset is practically taken for this experimental analysis. It is used for better classification outcomes. SVM when used here for prediction is called a regression algorithm. The goal is to obtain a non-linear function using the kernel function.

Support Vector Regression algorithm

Step1: Import the libraries.

Step2: Importing the dataset.

Step3: Feature Scaling.

Step4: Fitting the support vector regression model set.

Step5: Predicting a new result.

Step6: Visualizing the Support Vector Regression results.

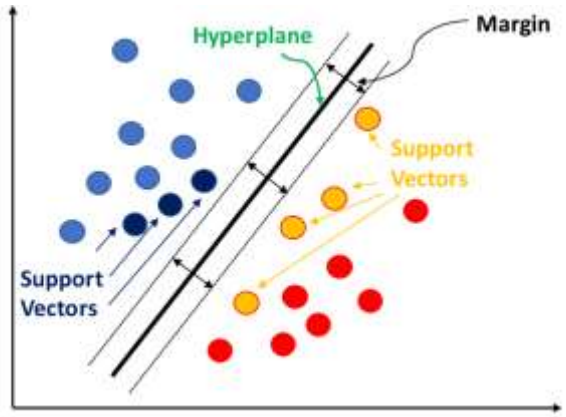


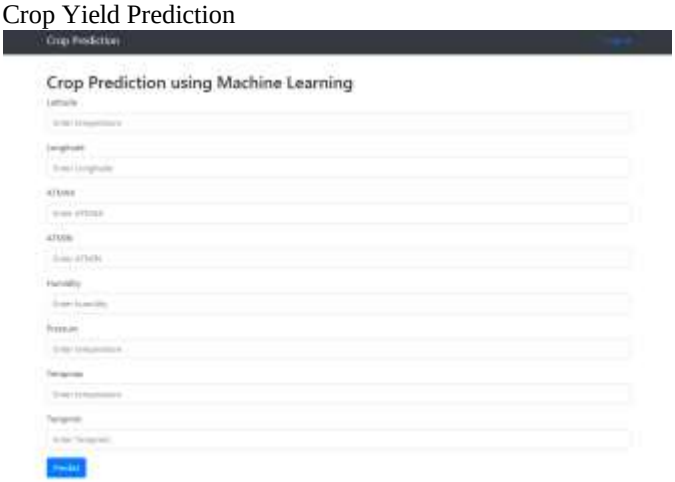
Fig: SVM (Support Vector Machine)

IV. RESULTS AND CONCLUSIONS

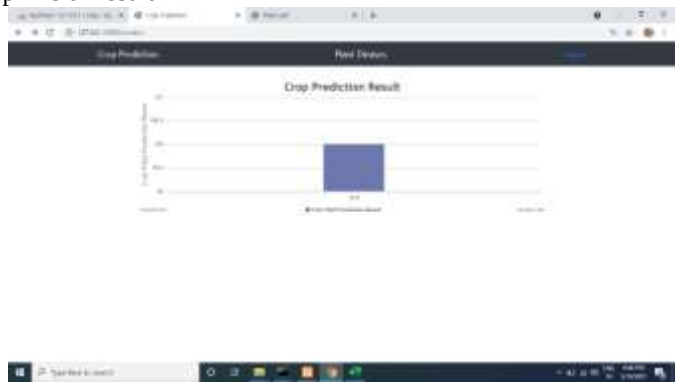
4.1 Outputs

Homepage

Crop Yield Prediction



Crop Yield Result



4.2 Conclusion

According to our report, the scope is still open for the Outcome enhancement. During the research that we carried out, It is noted that the algorithm used for most of the unified approaches is not used by writers where all the variables are involved. It is possible to use the effect on crop yield simultaneously to estimate crop yield. As the dataset is considered to be limited in certain situations, there is also more space for development. The outcome can also be strengthened by using a large dataset.

V. ACKNOWLEDGMENT

[1] Sundmaeker, H.; Verdouw, C.; Wolfert, S.; PrezFreire, L. 'Internet of Food and Farm 2020'.

[2] Predictive Analysis to Improve Crop Yield Using a Neural Network Model Shruti Kulkarni, Shah Nawaz Mandal, G Srivatsa Sharma,

[3] Venkatesan, R.; Tamilvanan, A. 'A sustainable agricultural system using IoT. In Proceedings of the 2017 International Conference on Communication and Signal Processing(ICCSP) 2017; PP. 763-767.