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Agriculture Crop RecommendationsBased on Productivity and Season

Sushma G[1], Chinmayee M[2],Sindhu K[3]
1 Department of Information Technology,
Malla Reddy Engineering College for Women(UGC-Autonomous),
Hyderabad, India
Email : guntisushma123@gmail.com

2 Department of Information Technology,
Malla Reddy Engineering College for Women(UGC- Autonomous),
Hyderabad, India
Email : chinmayeemothukuri14@gmail.com

3 Department of Information Technology,
Malla Reddy Engineering College for Women(UGC- Autonomous),
Hyderabad, India
Email : sindhukommineni147@gmail.com

Abstract:

Due to the variable climatic factors o f the environment, there is a necessity to have an efficient technique to facilitate the crop cultivation and to lend a hand to the farmers in their production and management. A system of recommendations can be provided to a farmer to help them in crop cultivation with the help o f data mining. . To implement such an approach, crops are recommended based on its climatic factors and quantity. Data Analytics paves a way to evolve useful extraction from agricultural databases. Crop Dataset has been analyzed and recommendation of crops is done based on productivity and season

Keywords — **Machine learning: Dataset:*Computer Vision.***

I . INTRODUCTION

Andhra Pradesh being the 7th largest area in India has the 6th largest population. It is the leading producer of agriculture products. Agriculture is the main occupation of Andhra Pradesh people. Agriculture has a sound tone in this competitive world. Cauvery is the main source of water. Cauvery delta regions are called the rice bowl of Andhra Pradesh. Rice is the major crop grown in Andhra Pradesh. Other crops like Paddy, Sugarcane, Cotton, Coconut and groundnut are grown. Bio-fertilizers are source of occupation.

Agriculture makes a dramatic impact in the economy of a country. Due to the change of natural factors, Agriculture farming is degrading now-a-days. Agriculture directly depends on the environmental factors such as sunlight, humidity, soil type, rainfall, Maximum and Minimum Temperature, climate, fertilizers, pesticides etc. Knowledge of proper harvesting of crops is needed to bloom in Agriculture. India has seasons of

1. Winter which occurs from December to March
2. Summer season from April to June
3. Monsoon or rainy season lasting from July to September and
4. Post-monsoon or autumn season occurs from

October to November.

Due to the diversity of season and rainfall, assessment of suitable crops to cultivate is necessary. Farmers face major problems such as crop management, expected crop yield and productive yield from the crops. Farmers or cultivators need proper assistance regarding crop cultivation as now-a-days many fresh youngsters are interested in agriculture. Impact of the IT sector in assessing real world problems is moving at a faster rate. Data is increasing day by day in the field of agriculture. With the advancement in Internet of Things, there are ways to grasp huge data in the field of Agriculture. There is a need for a system to have obvious analyzes of data of agriculture and extract or use useful information from the spreading data. To get insights from data, it has to be learnt.

II. EXISTING SYSTEM

Extensive work has been done, and many ML algorithms have been applied in the agriculture sector. The biggest challenge in agriculture is to increase farm productionand offer it to the end-user with the best possible price and quality. It is also observedthat at least 50% of the farm produce gets wasted, and it never reaches the end-user. The proposed model suggests the methods for minimizing farm produce wastage. One of the recent works, S. Pavani et.al. presented a model where the crop yield is predicted using KNN algorithms by making the clusters. It has been shown that KNNclustering proved much better than SVM or regression. Nishant et. al. predicted the crop yield for the specific year with the help of advancedregression techniques like Enet, Lasso and Kernel Ridge algorithms. The Stacking regression helped to enhance the accuracy of the algorithms.

III . PROPOSED SYSTEM

In this project, we have proposed a model that addresses the existing issues. The novelty of the proposed system is to guide the farmers to maximize the crop yield as well as suggest the most profitable crop for the specific region.

The proposed model provides crop selection based on economic and environmental conditions, and benefit to maximize the crop yield that will subsequently help to meet the increasing demand for the country's food supplies. The proposed model predicts the crop yield by studying factors such as rainfall, temperature, area, season, soil type etc. The system also helps to determine the best time to use fertilizers.

The user provides an area under cultivation and soil type as inputs. According to the requirement, the model predicts the crop yield for a specific crop. The model also recommends the most profitable crop and suggests the right time to use the fertilizers.

The main objective is to obtain a better variety of crops that can be grown over the season. The proposed system would help to minimize the difficulties faced by farmers in choosing a crop and maximize the yield.

IV. RESULTS

Command used to obtain Criminal Detection GUI

Fig 1. . Command used to obtain Criminal Detection GUI

V. CONCLUSION

This paper extensively investigated the importance of crop management. Farmers need help in using new technologies to grow their crops. Farmers can be informed in time about the correct forecast of crops. Many machine learning

techniques have been used to analyze agricultural parameters. Some of the techniques in various aspects of agriculture are explored through literature research. Soft computing technology, where neural networks are thriving, plays an important role in providing recommendations. Taking into account parameters such as yield and season, farmers are given more personalized and appropriate recommendations and can achieve good yields.This paper extensively investigated the importance of crop management. Farmers need help in using new technologies to grow their crops. Farmers can be informed in time about the correct forecast of crops. Many machine learning techniques have been used to analyze agricultural parameters. Some of the techniques in various aspects of agriculture are explored through literature research. Soft computing technology, where neural networks are thriving, plays an important role in providing recommendations. Taking into account parameters such as yield and season, farmers are given more personalized and appropriate recommendations and can achieve good yields.

Fig1.1 Crop Recommendation

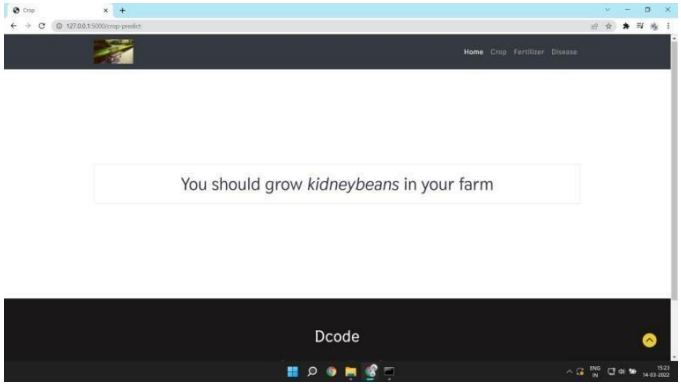


Fig 1.2Fertilizer recommendation

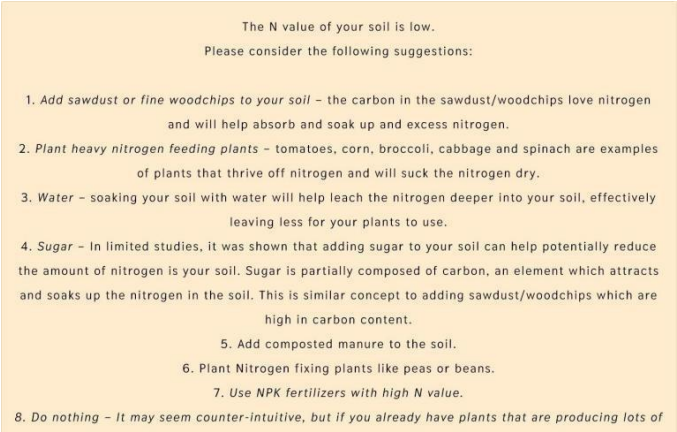
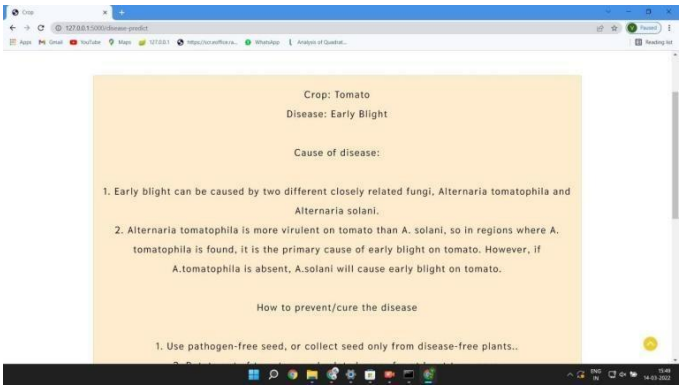


Fig 1.3 disease detection



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