

Crop Recommendation System Based On Productivity Using Machine Learning Algorithm

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Abstract:

As a coastal state, Tamil Nadu faces insecurity in agriculture which decreases its production. With more population and area, more production should be achieved but it cannot be reached. Farmers have words-of-mouth in older decades but now it cannot be used due to climatic features. Agricultural factors and factors make the data to get insights about the Agri -facts. Growth of IT world drives some highlights in Agriculture Sciences to good agricultural information. Intelligence of applying new technological devices in the field of agriculture is needed in this current scenario. Agricultural issues like crop calculation, rotation, water requirement, fertilizer requisite and protection can be solved. Due to the flexible climatic factors of the environment, there is a essential to have efficient technique to facilitate the crop gardening and to lend a hand to the farmers in their production and management. This may help upcoming agronomists to have a better cultivation. A system of recommendations can be provided to a farmer to help them in crop gardening with the help of data mining. To instrument such an approach, crops are commended based on its climatic factors and quantity. Data Analytics paves a way to evolve useful abstraction from agricultural database. Crop Dataset has been analyzed and commendation of crops is done based on productivity and season.

Keywords —Agriculture, Crop, Factors, Population.

I. INTRODUCTION

Tamil Nadu being 7th largest area in India has 6th largest area population. It is the leading maker of agriculture products. Agriculture is the main profession of Tamil Nadu people. Agriculture has a sound tone in this inexpensive world. Cauvery is the main source of water. Cauvery outlet regions are called as rice bowl of Tamil Nadu. Rice is the major yield grown in Tamil Nadu. Other crops like Paddy, Sugarcane, Cotton, Coconut and groundnut are grown. Bio-fertilizers are produced efficiently. Many area Farming acts as major source of profession. Agriculture makes a theatrical impact in the economy o f a country. Due to the change of

likely factors, Agriculture farming is corrupting now-a-days.

Due to the range of season and rainfall, assessment of suitable crops to cultivate is required.Farmers or cultivators need proper assistant regarding crop agriculture as now-a-days many fresh youngsters are interested in agriculture. Impact of IT sector in weighing real world problem is moving at a quicker rate. Data is increasing generation by day in field of cultivation. There is a need of a system to have obvious analyzes of data of agriculture and extract or use useful data from the spreading data.

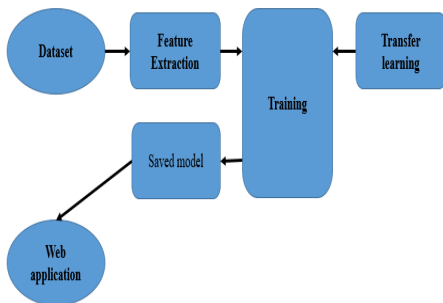
II.LITERATURE SURVEY

2.1 The Sustainable Crop For a Bio-Based Economy: 2018–2019 Production Recommendations for the Southeastern United States.

Brassica carinata (carinata) is an oilseed crop with prospective for commercial cultivation in the southeastern US. Its high oil contented and favorable fatty acid profile make it suitable for the biofuel production as a biojet fuel. The UF/IFAS North Florida Research and Education Center (NFREC) in Quincy, Florida has been working to identify innovative carinata varieties that are high-yielding (seed and oil), disease-resistant, timely-maturing, and changed to southeastern US. The work at NFREC is in mixture with Agrisoma Biosciences Inc., a private sector partner with the world’s leading, most cutting-edge carinata breeding package.

2.2 Models for analyzing socioeconomic factors to improve policy recommendations

Although each CGIAR center has a different undertaking, all CGIAR centers part a common strategy of motivated toward a world free of hunger, poverty, and conservational degradation. This means research is mostly focused toward resource-constrained smallholder planters. The review covers global modeling efforts using the IMPACT model to farm household bio-economic models for assessing the potential impact of new technologies on farming systems and maintenances. This study, while not inclusive review, provides insights into the richness of the socioeconomic modelingendeavors within the CGIAR. The study high lights the need for inter disciplinary approaches to address the challenges this type of modeling faces. Abbreviations: APSIM,



III. SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

The existing method used machine learning algorithm such as KNN, support vector machine, Random forest, Decision tree.The accuracy of the model is around 97%.The 20 crops are trained in the existing model. It aims to give exact results to farmers. It finds hidden forms. It discovers useful knowledge from the wonderful data set. It is one of the processes in Information Discovery in Databases . Apart from the KDD process, in recent days with the expansion in IT world, Machine Learning has occurred to handle big volume of data and comprises high performance computing too. Claim of Machine Learning in Cultivation peaks up day by day. Machine Learning measures are used in crop administration, livestock administration, water administration and soil administration.

3.1.1 DISADVANTAGE

- Less accuracy
- Low performance

3.2 PROPOSED SYSTEM

The proposed system deep learning based alexnet based algorithm is implemented for detect the crop disease of imageThe objective of the work is leaf disease detection using alxnet based algorithm is implemented for detect the paddy leaf disease detection .

To provide a robust paddy leaf illness recognition system using copy processing techniques and give remedy prediction towards take proper cures.

To Design a fast, accurate and user-friendly paddy leaf disease recognition system and proper care according to the severity of disease.

3.2.1 ADVANTAGES

- High accuracy
- Increase overall performance

IV.SYSTEM ARCHITECHTURE
V.MODULE IMPLEMENTATION

5.1 MODULE LIST

- Dataset collection
- Data preprocessing
- Model selection
- Training
- Model deployment

5.2 MODULE DESCRIPTION

5.2.1 Dataset collection

- The dataset for our project has been collected from the hird party website called kaggle.
- The dataset contains 22 crop classes. Each and every class has 200 records.

5.2.2 Data preprocessing

Null values processing, Normalization are the process using in the module.

VI.CONCLUSION AND FUTURE ENHANCEMENT

In this paper, consequence of management of yields was studied vastly. Farmers need assist with recent equipment to grow their crops. Proper expectation of crops can be informed to agriculturists in time basis. Many Machine Learning performances have been used to evaluate the agriculture restrictions. Some of the techniques in changed aspects of agriculture are studied by a literature study. Blossoming Neural networks, Soft multiplying techniques plays significant part in providing blessings. Considering the parameter similar production and season, more adapted and relevant recommendations can be given to ranchers which makes them to yield good volume of construction.

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