CROP PREDICTION USING CNN ALGORITHM

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ABSTRACT

The impact of climate change in India, most of the agricultural crops are being badly affected in terms of their performance over a period of the last two decades. Predicting the crop yield in advance of its harvest would help the policy makers and farmers for taking appropriate measures for marketing and storage. This project will help the farmers to know the yield of their crop before cultivating onto the agricultural field and thus help them to make the appropriate decisions. It attempts to solve the issue by building a prototype of an interactive prediction system.

I.   INTRODUCTION

Investment in Stock is one of the most rated businesses for making money for middle class investors. After that it is actual trading business of high-class investors and traders. Dependent on overall study related to market and company you can decide to invest. But you have limits to study because one cannot be sure about that study and analysis is correct.

Many studies have used machine learning techniques such as regression tree, random forest, multivariate regression, association rule mining, and artificial neural networks for crop prediction. Machine learning models treat the output, crop yield, as an implicit function of the input variables such as weather components and soil conditions, which could be a very complex and nonlinear function.

II.   METHODOLOGY

Crop prediction attributes are defined by multiple factors such as genotype, climate and the interactions between the two. Accurate crop prediction needs a fundamental understanding of the functional relationship between cultivation and interactive factors like genotype and climate. Data is a very important part of any Machine Learning System. To implement the system, we decided to focus on Maharashtra State in India. As the climate changes from place to place, it was necessary to get data at district level. Historical data about the crop and the climate of a particular region was needed to implement the system. This data was gathered from different government websites. The data about the crops of each district of Maharashtra was gathered from www.data.gov.in and the data about the climate was gathered from www.imd.gov.in. The climatic parameters which affect the crop the most are precipitation, temperature, cloud cover, vapour pressure, wet day frequency. So, the data about these climatic parameters was gathered at a monthly level.

III.   MODELING AND ANALYSIS

There is a possibility that valuable publications might have been missed. More synonyms could have been used, and a broader search could have returned new studies. However, the search string resulted in a high number of publications indicating a broad enough search.

Another issue that could be a threat to validity the way the analysis is conducted. For example, not all publications stated what kind of evaluation parameters were used, and sometimes just a few examples of features were explained. Thus, sometimes this information that is required to address the research questions could not be found in the paper. This way, the data that was used to answer the research questions were derived from a few numbers of publications than a total of 50 selected publications.
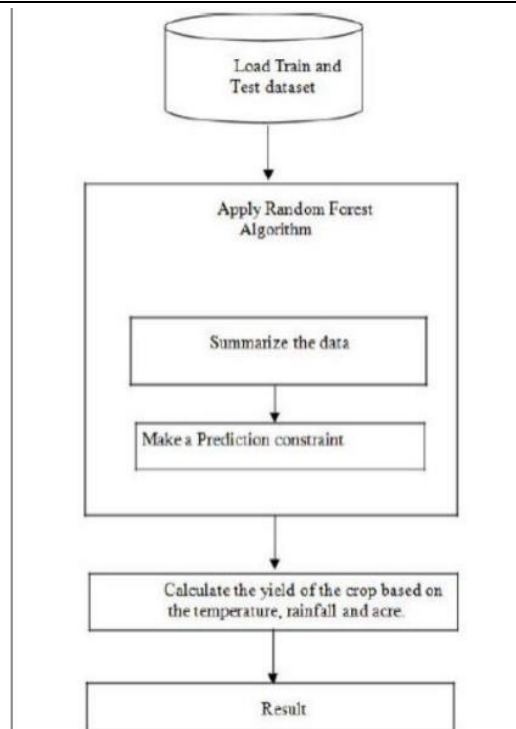
Figure 1: Working Model

IV.   CONCLUSION

Based on the climatic input parameters the present study provided the demonstration of the potential use of data mining techniques in predicting the crop yield based. The developed webpage is user friendly and the accuracy of predictions are above 75 per cent in all the crops and districts selected in the study indicating higher accuracy of prediction. By providing climatic data of that place the user-friendly web page developed for predicting crop yield can be used by any user their choice of crop.

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V.   REFERENCES

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