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CROP YIELD PREDICTION USING MACHINE LEARNING

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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. Implementation of such a system with an easy-to-use web based graphic user interface and the machine learning algorithm will be carried out. The results of the prediction will be made available to the farmer. Thus, for such kind of data analytics in crop prediction, there are different techniques or algorithms, and

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future crop productivity and an analysis is to be mad the farmers to maximize the crop production of crops is an important agricultural problem. In the past farme their yield from previous year yield experiences. Thu data analytics in crop prediction, there are differe algorithms, and with the help of those algorithms we yield. Random forest algorithm is used. Using all the with the help of inter-relation between them, there a of applications and the role of Big data analytic agriculture. Since the creation of new innovative techniques the agriculture field is slowly degradin abundant invention people are concentrated on cul products that are hybrid products where there leads life. Nowadays, modern people don't have awar

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situation faced by us. In India, there are many ways to increase the economic growth in the field of agriculture. Data mining is also useful for predicting crop yield production. Generally, data mining is the process of analysing data from various viewpoint and summarizing it into important information. Random forest is the most popular and powerful supervised machine learning algorithm capable of performing both classification and regression tasks, that operate by constructing a multitude of decision trees during training time and generating output of the class that is the mode of the classes (classification) or mean prediction (regression) of the individual trees.

Keywords— Agriculture, Machine Learning, crop-prediction, Supervised Algorithms, Crop yield, Data Mining.

I. INTRODUCTION

Agriculture is the backbone of the Indian economy. In India, agricultural yield primarily depends on weather conditions. Rice cultivation mainly depends on rainfall. Timely advice to predict the

problems like weather, temperature and several far proper solution and technologies to overcome the s us. In India, there are several ways to increase the ecothe field of agriculture. There are multiple ways improve the crop yield and the quality of the crops. D useful for predicting crop yield production. The main

- a. To use machine learning techniques vield.
- b. To provide easy to use User Interface
- To increase the accuracy of crop yield
- d. To analyse different climatic paramet rainfall, temperature)

II. LITERATURE REVIEW

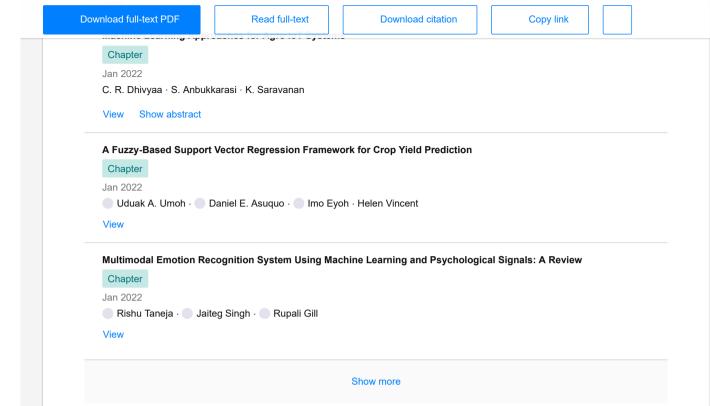
In [1] Predicting yield of the crop using machine le International Journal of Engineering Science Resea This paper focuses on predicting the yield of the c existing data by using Random Forest algorithm. Re Nadu were used for building the models and the models are the second secon

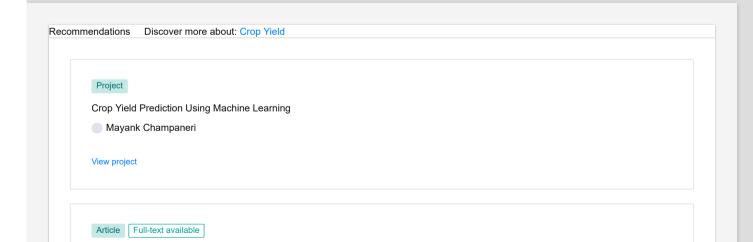
Download full-text PDF Read full-text Download citation Copy link Citations (13) References (15) ... Hence, it was decided to execute many algorithms such as random forest (RF), stacked generalization, gradient boosted tree (GBT) regression, and LASSO regression algorithms (Bhanu Kiran et al., 2020). The efficiency of the model is tested using k-fold cross-validation (Shah et al., 2018; Champaneri et al., 2020) An intelligent decision support system for crop yield prediction using hybrid machine learning algorithms Article Nov 2021 Kalaiarasi Sonai Muthu Anbananthen · Sridevi Subbiah · Deisy Chelliah · O Ahamed Khan

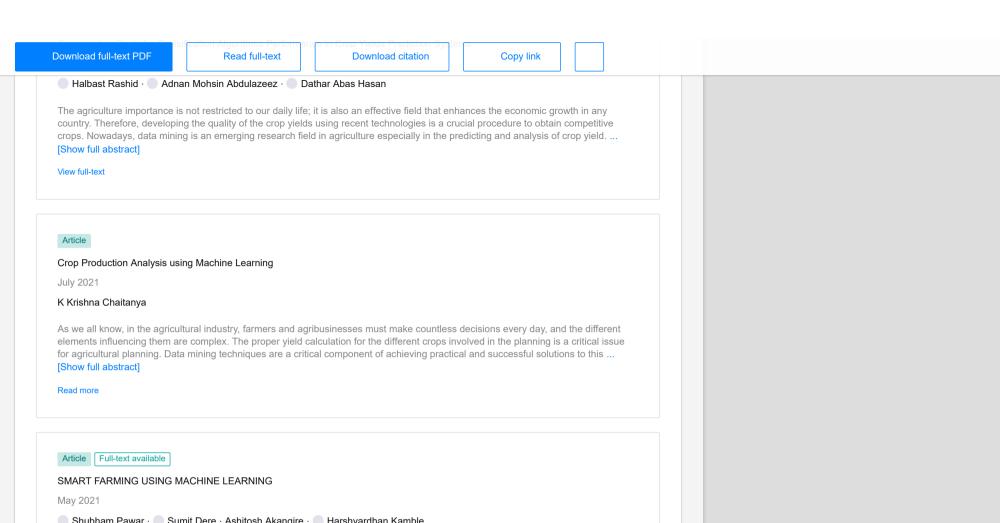
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Agriculture plays an important role in the Indian economy. But nowadays, agriculture in India is undergoing a structural change leading to a crisis situation. The only remedy to the crisis is to do all that is possible to make agriculture a profitable enterprise and attract the farmers to continue the crop production activities. As an effort towards this direction, this research paper would help ... [Show full abstract]

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Prediction of crop yield can help traders, agri-business and government agencies to plan their activities accordingly. It can help government agencies to manage situations like over or under production. Traditionally statistical and crop simulation methods are used for this purpose. Machine learning models can be great deal of help. Aim of present study is to assess the predictive ability of ... [Show full abstract]

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