LITERATURE SURVEY ON "ESTIMATE CROP YIELD USING DATA ANALYTICS"

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INTRODUCTION		SURVEY/BODY OF REVIEW			CRITICAL ANALYSIS	
Year	Title	Problem Definitions	Methodology (Algorithm Used)	Input Parameter	Results	Future Scope
July-September 2017 JCPS Volume 10 Issue 3	Analysis of Agricultural Data Using Big Data Analysis	This study deals with the analysis of agricultural data which helps in better understanding of agriculture in India.	Tools used: MapReduce, Hadoop Distributed File System and YARN MapReduce. Algorithms used: 1.Simple Linear Regression 2.Decision Tree	The authors have used the datasets in which the crops have been categorized based on the season, based on Minimum price announced by the government, based on temperature, so that they will be able to visualize a different kind of data.	Advantages: 1.Cost reduction, 2.Accuracy of prediction, 3.Faster and Better decision making by using distribute solutions. Disadvantages: 1. As a result of ignorance a large amount of products become wasted. 2. Lack of geographical analysis done.	1.Getting feedback from users to improve interface. 2.Including IoT to encourage more e-farming. 3.Using cloud to store and retrieve data. 4.Using text analysis to find out the opinions of common people.

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October 2017 JOURNAL OF MANAGEMENT (JOM)Volume 4, Issue 2	THE ASCENDANCY OF BIG DATA ANALYTICS FOR AGRICULTURAL COMPETITIVENESS: THE THEORETICAL FRAMEWORK TO AUGMENT THE AGRICULTURAL MANAGEMENT SYSTEM	This study aims to establish economically and efficiently sustainable analytics models of agriculture, help farmers to systematize themselves to advance their livelihood	Tools used: Power BI, Oracle Visual Analyzer, Tableau, Fusion chart, Canvas Algorithms used: 1.K means clustering algorithm 2.Regression model 3.K-nearest neighbours' algorithm	Various factors like finding effective crop hybrids, selecting the pesticides, air moisture, irrigation management, temperature, rainfall, pricing, market data etc., contribute to farmers profitability.	Advantages: The predictive analytics will be useful to face the challenges of profound agricultural crisis in India. Disadvantages: Major concerns of authors: 1.Data quality and Integrity 2.Data access rights 3.Data timeliness 4.Data ethics and Independence	1. Providing a roadmap or framework for big data management. 2. Use more advanced algorithms, IoT for e-farming and use cloud to store and retrieve data. 3.Implementing framework in Dynamic nature.

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2018 IJRAR December 2018, Volume 5, Issue 4	CROP YIELD PREDICTION IN AGRICULTURE USING DATA MINING PREDICTIVE ANALYTIC TECHNIQUES	In this study, the authors have collected various datasets and predicted crop yields using various regression technique. Regression analysis was tested for the effective prediction or forecast of the agriculture yield for various crops in Tamilnadu state	Algorithms used: 1.Linear Regression 2.Logistic Regression 3.Polynomial Regression 4.Ridge Regression 5. Multiple Linear Regression 6. K-Means algorithm.	Regression analysis, it observes the relation between an independent (predictor) and dependent (target) variables. This technique helps to estimate through time series data and finds the underlying effect among these variables. Regression analysis indicates the significant relationships between dependent variable and independent variable and it indicates the strength of impact of multiple independent variables on a dependent variable.	Advantages: Regression analysis helps in making prediction and forecasting for crop yield both in near and long term. Disadvantages: This focus only on the crop yield prediction, factors such as climatic changes are completely ignored.	The future work can be aimed at the analysis of the entire set of data and will be devoted to suitable strategies for improving the efficiency of the proposed algorithm. The clustering and regression are one of the capable tool in field of data mining which can be used in several different ways.

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November-2020 International Journal of Engineering Research & Technology (IJERT) Volume 8 Issue 12	Crop Yield Prediction using KNN Model	In this paper the main goal is to create a user-friendly interface for farmers, which gives the analysis of crop yield prediction which is based on available datasets and to maximize and predict the crop yield productivity.	**Tools used:** 1.Python Flask 2.RStudio **Algorithms used:** 1. The Auto Regression Moving Average (ARMA) 2.K Nearest Neighbours' (KNN)	Rainfall, Temperature and groundwater level dataset are taken from Indian metrological department. In this module, rainfall water data set is taken for Indian data for past ten years. The data is converted into data frame and pre-processed. Then using 'arima' function, the model is prepared for the given data set and predicted for upcoming years.	**Advantages:** The study has successfully predicted the rainfall, temperature and ground water level, which in return helps in estimation of crop yield **Disadvantages:** This study mainly focuses on the prediction of rain water, temperature and ground water levels.	According to the results, temperature is best predicted by the ARIMA model and the accuracy of predictions made for rainfall by ARMA model is also good. Rainfall, which is an important factor for the prediction of crop yield is difficult to estimate precisely. This project classifies the ground water level data set records using KNN to predict the model for future test record data sets. In future, logistic regression can be applied to further classify the data.

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