

Exploratory Analysis of Rain Fall Data in India for Agriculture

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ABSTRACT

Predicting the amount of daily rainfall improves agricultural productivity. Wise use of rainfall water should be practiced in the country to minimize the problem of the drought and flood. The main objective of this study is to identify the features that cause rainfall and predict the intensity of daily rainfall using machine learning techniques. The Pearson correlation technique was used to select relevant environmental variables which were used as an input for the machine learning model. The result of the study revealed that the Extreme Gradient Boosting machine learning algorithm performed better than others.

INTRODUCTION



To predict rainfall which may help in preventing disasters such as destruction of crops and heavy floods .This may help in determining the rainfall for effective use of water resources, crop productivity and pre-planning of water structures.

LITERATURE REVIEW

Rainfall Prediction Using Machine Learning Algorithms for the Various Ecological Zones of Ghana(EMMANUEL AHENE December 28, 2021)

Accurate rainfall prediction has become very complicated in recent times due to climate change and variability. This research executed rainfall prediction in Ghana covering all the ecological zones using five classification algorithms. To ensure effective rainfall prediction, input datasets went through the exploratory data analysis by which chained equations algorithm was used to replace missing data, outliers were removed from the datasets and normalized before the classification stage.

LITERATURE REVIEW

Time Series Analysis and Forecasting of Rainfall for Agricultural Crops in India: An Application of Artificial Neural Network (Debasis Mithiya November 6, 2020)

Indian agriculture depends heavily on rainfall. It not only influences agricultural production but also affects the prices of all agricultural commodities. The study has attempted to forecast monthly rainfall in India with the help of time series analysis using monthly rainfall data. The non-linear model - Artificial Neural Network (ANN) has been chosen instead of linear models to forecast rainfall

LITERATURE REVIEW

Designing a Rule-Based Hourly Rainfall Prediction Model

Rainfall prediction is important in many aspects of our economy and general livelihood by preventing any serious natural disasters. This study have proposed a computer-aided rule based rainfall prediction model using CART and C4.5.As outcomes, rules for rainfall prediction are provided. The study believes that the generated rules are useful for predicting the chance of rain and quantitatively measuring hourly rainfall. The study identified that the generated reliable rules with decision tree algorithms are important and efficient for future rainfall prediction with maintaining high accuracy.

LITERATURE REVIEW

Heuristic Prediction of Rainfall Using Machine Learning Techniques (Chandrasegar Thirumalai)

A regular rain pattern is plays a vital role for healthy agriculture while too much rainfall or too little rainfall can be harmful for crops. This study measures the different categories of data by linear regression method for effective understanding of agriculture in India.K-Means Clustering helped to predict type of rainfall cloud by analysing the colour and density of the cloud images.

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