

Exploratory Analysis of Rainfall Data in India for Agriculture

Abstract:

India is an agricultural country, and the economic growth of each year depends on the amount of duration of the monsoon can lead to the destruction of scope crops, which may result in scarcity of some agricultural products which in turn can cause food inflation, insecurity and public unrest.

Introduction:

The many research studies to analyze the Exploratory Analysis of Rainfall Data in India for Agriculture. Data Science applications for farming include conventional neural networks to detect crop disease and implement IoT Sensors. Farmers can achieve even greater predictive power by combining site-specific data and third-party sources on weather and other factors.

Problem Statements:

Basically, during the summers, the Indian subcontinent heats more as compared heats up more as compared to the Indian subcontinent. Flooding key agriculture production areas can lead to widespread damage to crops, fencing and loss of livestock. Flooding can run fields and destroy crops by causing erosion and soil displacement.

Significance:

Climate is irregular and changes unpredictably. Farmers pray for good rain every year as it provides the necessary irrigation to set agriculture in motion. It is the balance of proper watering that is key to the best crops possible.

Method:

The project will be developed by the Anaconda platform than the data collection. The process is referred to the official government weather climate website, Skymetwhether, India Agriculture and climate Dataset, which refers to some data science platforms like Kaggle, google.

Literature Survey:

Machine learning takes weather data and builds relationships between the available data and the relative predictors. ML can help improve physically grounded models, and by combining both approaches, they can get accurate results.

Techniques Used:

We will be using the classification of algorithms such as Decision tree, Random Forest, KNN and Boost. We will train data with these algorithms. Data set is collected. After the analysis of collecting data then do the research. Some Machine learning libraries are imported.

Conclusion:

The main idea is to understand average rainfall, default rainfall, excess rainfall and seasonal rainfall. This analysis will provide useful information for framers to access the availability of water and create. We will use it for land preparation and sowing.

Reference:

Journal :-

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- Pal, S. & Talukdar, Journal of cleaner production 252, 1197249(2020)
- Machine Learning techniques to predict daily rainfall amount: Chalachew Muluken Liyew and Haileyesus Amsaya Melese published 07 December 2021. © 2020 The Author(s). Publishing by Journal of Big Data

Base Paper:-

- Rainfall prediction using Machine Learning: Akash Gupta, Hitesh Kumar, and S Janartha published 03 Aug 2022. © 2020 The Author(s). Publishing .
- Rainfall Prediction for Enhancing Crop-yield based on Machine Learning Techiques: S.Malathy, C N Vaintha, Kotteswari,V Syamraj, P Sudharasan, E Mohankkanth published by 16 Jun 2022.
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Conferences:-

- Analyssis of IoT Big weather Data For Early Flood Forecasting System: J.Michael Antony Sylvia, M.Pushpa Rani, Bashiru Aremu published by 29 Nov 2021.

Government:-

- https://mausam.imd.gov.in/imd_latest/contents/rainfallinformation.php

Medium:-

- <https://medium.com/@anusha.gajinkar/exploratory-data-analysis-of-Indian-rainfall-data-f9755f2cc81d>

Kaggle:-

- <https://www.kaggle.com/anbarivan/indian-rainfall-analysis-and-prediction>