

EXPLORATORY ANALYSIS OF RAINFALL DATA IN INDIA FOR AGRICULTURE

INTRODUCTION

Rainfall has been a major concern these days. Weather conditions have been changing for time being. Rainfall forecasting is important otherwise, it may lead to many disasters. Irregular heavy rainfall may lead to the destruction of crops, heavy floods that can cause harm to human life. It is important to exactly determine the rainfall for effective use of water resources, crop productivity, and pre-planning of water structures.

This comparative study is conducted concentrating on the following aspects: modeling inputs, Visualizing the data, modeling methods, and pre-processing techniques. The results provide a comparison of various evaluation metrics of these machine learning techniques and their reliability to predict rainfall by analyzing the weather data.

LITERATURE REVIEW

M. Kannan predicted short term rainfall. Empirical method technique is used for prediction task. Data of three specific months for five years is analyzed for particular region. Clustering is used for grouping the elements [1].

Pinky Saikia Dutta and Hitesh Tahbilder predicted monthly Rainfall of Assam by traditional statistical technique - Multiple Linear Regression. Parameters selected for the model are min-max temperature, mean sea level pressure, wind speed and rainfall. Acceptable accuracy is given by prediction model based on multiple linear regressions [3].

S. Chattopadhyay has used two parameters minimum temperature and maximum temperature for rainfall forecasting. S.Chattopadhyay used past four months rainfall data as inputs to neural network model [2].

P. Goswami and Srividya have combined RNN and TDNN features and conclusion of their work was that composite models gives better accuracy than the single model. They used linear regression method for rainfall prediction [4].

S. Kannan and S. Ghosh contributed towards developing K- mean clustering technique combined with decision tree algorithm, CART, is used for rainfall states generation from large scale atmospheric variables in a river basin. Rainfall state on daily basis is derived from the historical daily multi-site rainfall data using K-mean clustering [5].

REFERENCES

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