LITERATURE SURVEY

TOPIC: EXPLORATORY ANALYSIS OF RAINFALL DATA IN INDIA FOR AGRICULTURE

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INTRODUCTION		REVIEW			CONCLUSION	
YEAR	***TITLE***	***overview***	***ALGORITHM USED***	***PERFORMANCE METRICS***	***ADVANTAGES***	**DISADVANTAGES/ DRAWBACKS**
2020	Rainfall prediction Using Machine Learning & Deep learning Techniques.	Time series prediction and analysis and forecasting.	Auto Regressive Integrated Moving Average, Artificial Neural network, Support Vector Machine.	The training testing and validation set results are combined to get the best result.The accuracy can be measured by MSE and RMSE.	Inputs are taken by the sensors. New techniques may implemented.It improves the accuracy of predicting tomorrow's rainfall.	Architecture of the light and weather scenarios has not been improved.
2022	Rainfall prediction system using machine learning fusion for smart cities	Real-time rainfall prediction system for smart cities using machine leaning.	Classification and regression, ANN- based hybrid technique, Decision tree.	The proposed machine learning techniques has increased the accuracy of rainfall prediction system by exploring hidden patterns of historical weather data.	The use of machine learning the prediction accuracy may increases.	It will not ensure cost-Effective prediction.
2022	Rainfall prediction: A comparative analysis of modern machine learning algorithms for time-series forecasting.	Rainfall forecasting techniques in preparation for any eventuality.	Automated machine learning, XG Boost model, LSTM and Stacked-LSTM models.	The results of the prediction models tested with the best values obtained by the hyper parameter search.	Rainfall forecasting models based on LSTM Networks architectures with modern Machine Learning algorithms.	It doesn't consider other weather factors.

2020	Regional Rainfall prediction using support vector machine classification of Large-scale Precipitation.	Large-scale precipitation maps can under some conditions give useful information for predicting regional rainfall.	Classification, Comparison between different SVM inputs, Pre-Processing.	Comparison between different SVM inputs, Comparison between regional predictions.	Weather prediction up to 30 days in advance.	In the current model we did not attempt to include additional engineered features.
2020	Machine learning based Rainfall prediction.	Prediction of weather using multiple linear regression.	Multiple linear regression approach.	The Mean square error,accuracy, correlation are the parameters used to validate the proposed model.	It uses multiple linear regression instead of simple linear regression.	Input data must only be obtained from locally available sources.
2022	Rain Prediction Based On Machine Learning	To predict the weather of the next day, since whether it will rain tomorrow is a very important indicator.	Logical Regression, Linear Regression, Classifier, KNM, Boost algorithm, Bagging algorithm	The current model achieve an accuracy of 82% which is not outstanding enough as our expectations.	It can process nominal and numerical data at the same time.	Prone to over fitting. It is difficult to deal with missing data.
2022	Development of rainfall forecasting model using Ml with SSA	The problem is to investigate and process the climate.	Linking SSA with LS-SVR and RF.	Performance of the model was assessed using Root Mean Square Error and Nash–Sutcliffe Efficiency and the proposed model produces the values as 71.6 %, 90.2 % respectively.	The proposed model accuracy is assessed by RMSE and NSE.	Only one data pre-processing strategy has not been accepted; Is doesn't show exact results

2021	Weather based crop prediction in India using Big data Analytics	Prediction of crops in India using big data analytics.	k-means cluster algorithm, logistic regression algorithm, recurrent neural network	Analysing temperature, rainfall, soil, seed, crop production, humidity and wind speed data (in a few regions), which will help the farmers improve the produce of their crops.	It uses big data analytics , kmean clustering.So it improves the accuracy.	It has high complexity and takes more time.
2021	Rainfall prediction using machine learning algorithms for the various Ecological zones of Ghana.	To using various classification algorithms for rainfall prediction in different zones	Classifications framework, Data Exploratory and analysis, Decision tree.	The performance of the models on the 3 different ratios covering all zones	Input dataset went through the exploratory data analysis.	It doesn't use other classification algorithms and a hybrid model at different training and different testing ratios for rainfall prediction.
2022	Machine Learning in Weather Prediction and Climate Analyses Applications and Perspectives.	Machine learning methods will be a key feature in future weather forecasting.	Deep Learning, Random Forest, XGBoost, Kmeans Clustering, Principal Component Analysis.	Use machine learning and artificial intelligence methods in meteorology and climatology.	Machine learning may have a particularly significant application in synoptic meteorology and climatology.	Correctly implement any machine learning method and not to use it as a black box.