EXPLORATORY ANALYSIS OF RAINFALL DATA IN INDIA FOR AGRICULTURE-PROPOSED SOLUTION

PROBLEM STATEMENT

- Rainfall forecasting is very important because heavy and irregular rainfall can have many impacts like destruction of crops and farms, damage of property so a better forecasting model is essential for an early warning that can minimize risks to life and property and also managing the agricultural farms in better way.
- 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.

IDEA/SOLUTION DESCRIPTION

- This prediction mainly helps farmers and also water resources can be utilized efficiently.
- Rainfall prediction is a challenging task and the results should be accurate.
- There are many hardware devices for predicting rainfall by using the weather conditions.
- These traditional methods cannot work in an efficient way so by using machine learning techniques we can produce accurate results.

NOVELTY/ UNIQUENESS

- Accuracy of rainfall statement has nice importance for countries like India whose economy is basically dependent on agriculture.

- This implementation will be used for farmers to have an idea of which crop to harvest according to crop seasons.

SOCIAL IMPACT/CUSTOMER SATISFACTION

- A complete understanding of the precipitation pattern in the changing environment will help in better decision making and improve the adapting-capacity of the communities to sustain the extreme weather events.
- The results provide a comparison of various evaluation metrics of these machine learning techniques and their reliability to predict rainfall by analysing the weather data.

BUSINESS MODEL (REVENUE MODEL)

- Many techniques like classification, regression according to the requirements and also we can calculate the error between the actual and prediction and also the accuracy.
- Different techniques produce different accuracies so it is important to choose the right algorithm and model it according to the requirements.
- The classification algorithms such as Decision tree, Random forest, KNN, and xgboost are used for this analysis.

SCALABILITY OF SOLUTION

- It is essential to analyse the rainfall infiltration law for slope stability analysis.
- As this can lead to field protection before the landslides occur.