Ideation Phase
List of Problem Statements

Date	20/10/2022
Team ID	PNT2022TMID52711
Project Name	Exploratory Analysis of Rainfall Data in India for Agriculture

Abstract:

Rainfall is very essential for agriculture. Agriculture is very essential for the economic growth of India. Rainfall forecasting or prediction gained research relevance due to its persistent applications such as disaster management, agriculture, pollutant concentration levels. But accurate rainfall prediction has become very complicated in recent times due to drastic variability in climatic changes. So a better forecasting model based on the classification models such as SVM, XGBoost, KNN, Decision Tree with high accuracy is needed.

Customer Problem Statement:

Farmers facing the daunting task of gathering their harvest and taking the produce to market after excessive rainfall harmed the winter crops. Accurate and timely rainfall prediction is expected to inject a new intervention phase to the affected sectors accosted with the negative propensities of rainfall extremes.

Heavy rainfall can have impacts like damage or destruction of crops so a tool is required which can predict the rainfall more accurate so that it helps farmers and also for utilizing the water resources efficiently.

I am	Farmers – whose main occupation is agriculture, will be affected most by the irregular rainfall.
I'm trying to	• Get the reliable data of past rainfall information over the desired region for prediction. • Predict the accurate rainfall over a region on a particular period.
But	• The wrong prediction results in the action of choosing the wrong crops which may lead to massive loss and wastage. • The correct predictions but after a delay of certain hours may also lead to a problem.
Because	• Improper collection of data of rainfall could lead to affect the accuracy of prediction. • Sudden change in weather such as tornado which can occur immediately after the prediction is done.
Which makes me feel	The trust on the tool or product will not be full of integrity.
What solution to solve the issue	The machine learning algorithms can be used for predicting rainfall data using important atmospheric features by describing the relationship between those atmospheric variables that affect the rainfall.