#### Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

10 minutes

#### **Problem Statement**

Agriculture is the backbone of the Indian economy. For agriculture, the most important thing is water source, i.e. rainfall. The prediction of the amount of rainfall gives alertness to farmers by knowing early they can protect their crops from rain. So, it is important to predict the rainfall accurately as much as possible. Exploration and analysis of data on rainfall over various regions of India and especially the regions where agricultural works have been done persistently in a wide range. With the help of analysis and the resultant data, future rainfall prediction for those regions using various machine learning techniques such as XGBoost classifier, SVM classifiers, Decision tree, Naive bayes classifier, Logistic regression etc.



#### **Brainstorm**

Write down any ideas that come to mind that address your problem statement.

(i) 20 minutes

## Shanmugasundaram B

Inspecting Atmospheric Pressure of various regions geographically distinguishable

Observing Wind Direction & Cyclone Sea & Bay of Benga through Indian Metrological Dept Data & News

Looking into the Sky daily to observe the clouds' density

Ensure data correctness & adequacy for prediction

### Sivakumar K

Collecting timely temperature of various regions & sub-divisions

Naive Bayes Classifier

Logistic Regression to predict tomorrow's rainfall [yes or no]

Comparing previous prediction & datasets with ours to analyze model performance

XGBoost Classifier

#### **Common Ideas Shared**

Random Forest Classifier

Analysing & Predicting rainfall based on seasonal, monthly or annual crop yields

Linear Regression [to predict rainfall(in nm) based on features]

K-Nearest Neighbours

Examining floods & encroachments to view rainfall effects

Time Series Forecasting

## Saravanakumar A

Observing & noting down daily temperatures

Watching or analysing the rainfall trends season wise

Neural Network Classifiers

Proctoring wind-speed direction wise

Analysing the regions or districts likely to receive rainfall

# Santhosh Kumar L

SVM Classifier

Forecasting months to receive rainfall based on previous years' data

Data collection & learning the trends present in it

Decision Tree

#### **Group ideas**

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

#### **Data Mining Ideas**

Observing & noting down daily temperatures

Proctoring wind-speed direction wise

Data collection & learning the trends present in i

Ensure data correctness & adequacy for prediction

Comparing previous prediction & datasets with ours to analyze performance

### Agricultural Intention [Farmers usually do so]

density

Forecasting months to receive rainfall based on previous years' data

Looking into the Sky daily to observe the clouds'

Analysing & Predicting rainfall based on seasonal, monthly or annual crop yields

Examining floods & encroachments to view rainfall effects

#### **Pattern Recognition**

Data collection & learning the trends present in it

Observing Wind Direction & Cyclone Sea & Bay of Bengal through Indian Metrological Dept. Data & News

Inspecting Atmospheric Pressure of various regions geographically distinguishable

Collecting timely temperature of various regions & sub-divisions

Watching or analysing the rainfall trends season wise

**Deep Learning Techniques** 

Neural Network

Classifiers

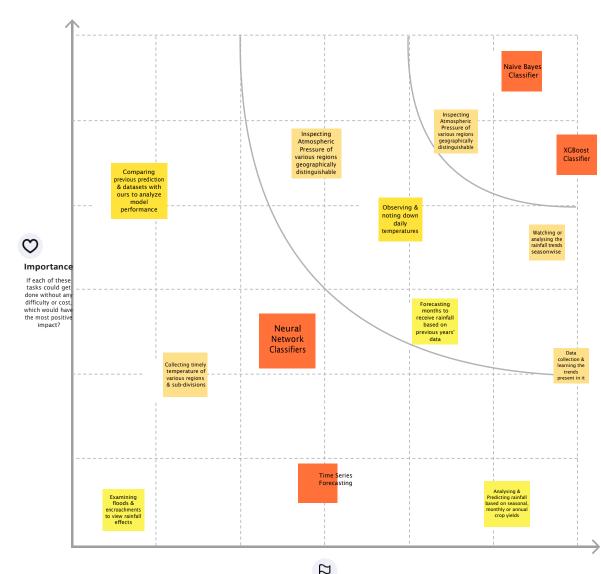
### Al Approaches

### **ML Algorithms**

### Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

30 minutes



Feasibility

Regardless of their importance, which tasks are more