Define the Problem Statements

Date	19 September 2022
Team ID	PNT2022TMID23348
Project Name	Estimate Crop Yield Using Data Analytics
Maximum Marks	2 Marks

Estimate Crop Yield Using Data Analytics

1. Agriculture is first and foremost factor which is important for survival. Data Analytics could be a crucial perspective for acquiring real-world and operative solution for crop yield issue. Considering the present system including manual counting, climate smart pest management and satellite imagery, the result obtained a rent really accurate. We focus mainly on predicting the yield of the crop by applying various techniques. The classifier models used here include Logistic Regression, Naive Bayes and Random Forest, out of which the Random Forest provides maximum accuracy. The prediction made by these will help the farmers to come to a decision which crop to grow to induce the most yield by considering factors like temperature, rainfall, are etc, which bridges the gap between technology and agriculture sector.

2. Most recently , machine learning techniques have been applied for crop yield prediction. A salient feature of machine learning models is that they treat the output (crop yield) as an implicit function of the input variables (genes and environmental components), which could be a highly non-linear and complex function

   we use deep neural networks can be used to predict yield, check yield, and yield difference of corn hybrids from genotype and environment data. Deep neural networks belong to the class of representation learning models that can find the underlying representation of data without handcrafted input of features. As such, as the network grows deeper, more complex features are extracted which contribute to the higher accuracy of results. Given the right parameters, deep neural networks are known to be universal approximator functions, which means that they can approximate almost any function, although it may be very challenging to find the right parameters.

3.India is a heavily reliant on agriculture. Organic, economic, and seasonal factors all influence agricultural yield. Estimating agricultural production is a difficult task for our country, particularly given the current population situation. Crop production assumptions made far in advance can help farmers make the necessary planning for things like storing and marketing. Crop production prediction involves a huge amount of data, making it a perfect candidate for data mining methods. Data mining is method of accumulating previously unseen anticipated information from vast database. Data mining assists in the analysis of future patterns and character, enabling companies to make informed decisions. For a specific region, this project provides a fast inspection of agricultural yield forecast using the Random Forest approach.

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