**India ML Hiring Hackathon 2019**

**1) Approach: -**

In that particular loan problem we need to find out the output in the form of 0’s and 1’s form. So I had chosen a classification algorithm to find out the output. And those classification algorithm are comes under the Supervised machine learning algorithm. I didn’t use any deep learning algorithm because the dataset was not too large. So I go with simple classification machine learning algorithm.

But there are lots of different classifications algorithms are available in machine leaning. So it might get difficult for me to select which is suitable algorithm who helps me to create a good model who can give me good accuracy and f1 score.

So I choose **k-fold cross validation technique** and apply all Classification algorithms like Logistic Regression, Polynomial Regression, Random Forest, KNN, Decision Tree algorithm and from those entire algorithm Random Forest algorithm gave me good accuracy. So I had chosen Random Forest Algorithm to solve that particular loan problem.

**2) Pre-processing Technique:-**

This loan data set was completely imbalance dataset. I was done EDA on those dataset. There were lots of null values, unwanted columns, and categorical data. I used fillna method to fill all null values with its mean. also I do feature engineering on training data i.e. pre-processing (standard scaling) for arrange all values in particular scale, also I do feature scaling to identify the most valuable feature which are highly co-related to the output. For that I applied Filter Method Technique (chi-square) to identify the most highly co-related feature (columns).

**3) Final Model:-**

My final model gave a good accuracy and f1 score. When I tested final model with testing data. It gave a good accuracy and F1 score. But when I was applied test data for testing so I applied standard scalar pre-processing technique to arrange all value in a particular range and also I need to put lots of noise in test data for maintaining the size of y\_pred and test data.