# Axis Bank Machine Learning Intern Hiring Challenge - IIT Kharagpur

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## **Data-pre processing**

- **1. Relpa**ce all the NA value with mode of that columns
- 2. convert the String columns into Integer using Lavel Encoder of sckit-learn package.

### **Model applied**

- 1. Splitted the training data into train and test in 7:3 ratio.
- 2. Use Decision tree, gradient boosting with the default and modified hyperparameter(learning rate=0.01, no. Of tree=1000 ),Xgboost.

### Final Accuracy(AUC)(on test data)

- 1. useing decision tree = .52
- 2. Gradient boosting with the default hyperparameter= .75
- 3. Gradient boosting with modified hyperparameter = .7667
- 4.Xgboost = .74

#### **Conclusion**

Gradient boosting perform better the decision tree because it uses many decision trees and also boosting approach to train the model.

With modified hyper parameter, learning rate become small (large time to train) more appropriate prediction of weights. Also increase in no. Of decision trees from 100 to 1000 give better model training.