Great Learning

← Go Back to Model Tuning

Course Content

Problem Statement - Loan Delinquent Analysis

Case Study: Loan Delinquent Analysis

Context:

DRS bank is facing challenging times. Their NPAs (Non-Performing Assets) have been on a rise recently and a large part of these are due to the loans given to individual customers(borrowers). The Chief Risk Officer of the bank decides to put in a scientifically robust framework for approval of loans to individual customers to minimize the risk of loans converting into NPAs and initiates a project for the data science team at the bank. You, as a senior member of the team, are assigned this project.

Problem:

The data-set aims to answer the following key questions:

What are the factors leading to delinquency?
Does imbalance in the data affect model predictions?
What are the key business recommendations based on analysis and model?

Attribute Information:

The data contains characteristics of the people

ID: Customer ID

isDelinquent : indicates whether the customer is delinquent or not (1 ⇒ Yes, 0 ⇒ No)

term: Loan term in months

gender: Gender of the borrower

age: Age of the borrower

purpose: Purpose of Loan

home_ownership: Status of borrower's home

FICO: FICO (i.e. the bureau score) of the borrower

Learning Outcomes:

Exploratory Data Analysis
K-fold Cross-validation
Handling imbalanced data
Regularization to reduce overfitting

Steps and Tasks:

Import Libraries and Load Dataset
Overview of data
Data Visualization
Data preparation
Choose model
Over and under-sample train set to balance the classes
Perform regularization, if needed
Conclusion

Previous Next