

Project Design Phase – I

Proposed Solution

Team ID	IBM-Project-4946-1658744109
Team Members	Priya Harshini R, Ridu Varshini A S, Nitharshan C V, Bindesh Gugan S.
Project	Smart Lender - Applicant Credibility Prediction For Loan Approval

Problem statement and proposed solution

One of the most important factors which affect our country's economy and financial condition is the credit system governed by the banks. The process of bank credit risk evaluation is recognized at banks across the globe. "As we know credit risk evaluation is very crucial, there is a variety of techniques are used for risk level calculation. In addition, credit risk is one of the main functions of the banking community. We will be using classification algorithms such as Decision tree, Random forest, KNN, and xgboost. We will train and test the data with these algorithms. From this best model is selected and saved in pkl format. We will be doing flask integration and IBM deployment.

Novelty

Novelty of our proposed approach lies in the combination of different data mining algorithms that are used to reduce the dimensionality of the dataset and increase accuracy in predicting the future behavior of corporate loans, to facilitate a more effective credit risk prediction. Also, class imbalance present in the dataset can be removed by using machine learning algorithms.

Feasibility of idea

Building a prediction model for such a high-stakes decision does not only require high model prediction accuracy, but also needs a reasonable prediction interpretation. Hence, this project will be a good kickstart to begin training a model with decent accuracy. Our aim is to implement ML algorithms to maximise the accuracy.

Business model

Credit risk modelling is a method used by lenders to determine the risk involved in providing loan to a particular applicant by analyzing various attributes such as applicant income, co-applicant income, education status, credit history and employment status. Credit risk is the measure of creditworthiness of a borrower. By the help of past data trends for loans provided for the applicants, we can use machine learning algorithms to predict whether a particular applicant might be provided with a loan or not.

Social impact

The prediction of credit defaulters is one of the difficult tasks for any bank. But by forecasting the loan defaulters, the banks definitely may reduce their loss by reducing their non-profit assets, so that recovery of approved loans can take place without any loss and it can play as the contributing parameter of the bank statement. This makes the study of this loan approval prediction important. Machine Learning techniques are very crucial and useful in the prediction of these types of data.

Scalability of solution

With the enhancement in the banking sector lots of people apply for the bank loans, but banks have limited assets which it can grant to limited people only. So, finding out to whom the loan can be granted which will be a safer option to the bank is a difficult process. So, we try to reduce the risk factor while selecting the safe person to save their efforts and assets. Since it impacts a large sector of people in the banking industry, it has high scope of improvement and scalability.