Project on: Machine learning model to predict if a credit card application will get approved.

Predicting if credit card request will approved for the customer given other attributes.

Project made in association with Technocolabs

Made By: Tanmeet Singh Chhabda

Project Description :

Commercial banks receive a lot of applications for credit cards. Many of them get rejected for many reasons, like high loan balances, low income levels, or too many inquiries on an individual's credit report, for example. Manually analyzing these applications is mundane, error-prone, and time consuming (and time is money!).
Luckily, this task can be automated with the power of machine learning and pretty much every commercial bank does so nowadays. In this project, you will build an automatic credit card approval predictor using machine learning techniques, just like the real banks do.

Motivation

Banking industries received so many applications for credit card request. Going through each request manually can be very time consuming, also prone to human errors. However, if we can use the historical data to build a model which can shortlist the candidates for approval that can be great.

Libraries Used

- sklearn
- pandas
- numpy
- seaborn
  matplotlib

Files Description

- crx.data : This is the dataset file for the project
- Data is downloaded from http://archive.ics.uci.edu/ml/datasets/credit+approval
- credit_card_approval.ipynb: The jupyter notebook which includes the analysis and modeling

Usage

- Run the jupyter notebook credit_card_approval.ipynb

The structure of this notebook is as follows:
* First, we will start off by loading and viewing the dataset.
* We will see that the dataset has a mixture of both numerical and non-numerical features, that it contains values from different ranges, plus that it contains a number of missing entries.
* We will have to preprocess the dataset to ensure the machine learning model we choose can make good predictions.
* After our data is in good shape, we will do some exploratory data analysis to build our intuitions.
* Finally, we will build a machine learning model that can predict if an individual's application for a credit card will be accepted.

Summary

In this project, I have tried to find out the factors that are most important for getting an approval for the credit card through the power of Data Analysis and Machine learning. Though we have achieved 86% of accuracy, I also tried to check if we can improve the performance further and tried grid search. However, 86% is the best we could get from this data using both the model, logistic regression and random forest.

Thanks for reading

Stay Safe and Stay at Home

Take Care & Keep Learning!

To view and stay connected with technocolabs follow the below link:

- https://www.linkedin.com/company/technocolabs/

To connect with me follow the below links:

- FaceBook:- https://www.facebook.com/tanmeet001 LinkedIn:-
- https://www.linkedin.com/in/tanmeet-singh/ Instagram:-
- https://www.instagram.com/tanmeet_001/ Twitter:- https://twitter.com/tanmeet01