ABSTRACT

PyCK Project (Machine learning)

Team Members

1. Rajat Kumar Singh (205280018)

2. Akshay Deshmukh (205280008)

3. Aman Kumar Patwa (205280020)

4. Aman kumar (205280021)

Credit card approval prediction using different Machine Learning Models

In this project we will predict the approval of credit cards on the basis of customer data on various factors using python libraries and machine learning. This project falls in the domain of machine learning, data science and finance.

Libraries used in this project are as follows:

· Numpy - for mathematical calculations involving arrays.

· Matplotlib - for plotting data for easy visualization.

· Pandas - data manipulation operations such as merging, reshaping, selecting, as well as data cleaning, and data wrangling features.

· Scikit learn - for machine learning and statistical modeling including classification, regression, clustering and dimensionality reduction.

Timeline of project:

1. Week-1

· We have gone through ML and required libraries for this project.

2. Week 2

  · Importing the libraries.

  · Importing the dataset.

  · Data cleansing.

  · Visualizing the data.

  · Outlier detection

3. Week 3

  · Feature Scaling.

  · Machine learning model

  · Balancing dataset

  · Fit various Machine learning model after balancing which are
     following:

    - Logistic Model Accuracy
    - Decision Tree Model Accuracy
    - Random Forest Model Accuracy
    - Support Vector Classifier Accuracy
    - KNN Model Accuracy
    - XGBoost Model Accuracy

  · Performing these steps on above machine learning models

    - Training the model on the Training set
    - Predicting the Test set results
    - Making the Confusion matrix
    - Visualizing the Training set results
    - Visualizing the Test set results

  · Validation

  · Concluding which model predicts with high accuracy

Motivation:

The project topic includes the finance scenario, several machine learning modals and python libraries which will help us to get more knowledge of the domain. Since learning anything remains useless as long as we apply it in real life. Hence using this project we'll be applying many of those things which we've learnt so far during this course. In addition, we'll also be applying a few things which we've learned on our own (ML part) just to get our hands on these.

Hence the project will help us a lot in future as well.

References:

https://www.kaggle.com/rikdifos/credit-card-approval-prediction/tasks?taskId=1416

https://www.udemy.com/course/machinelearning/

http://iitg.ac.in/sa/caciitg/course/