


American Express - Default Prediction Check Point 1

Group 24- Sarthak Garg, Yeshwanth Karra, Adithya Mahesh, Tanmay Parulekar

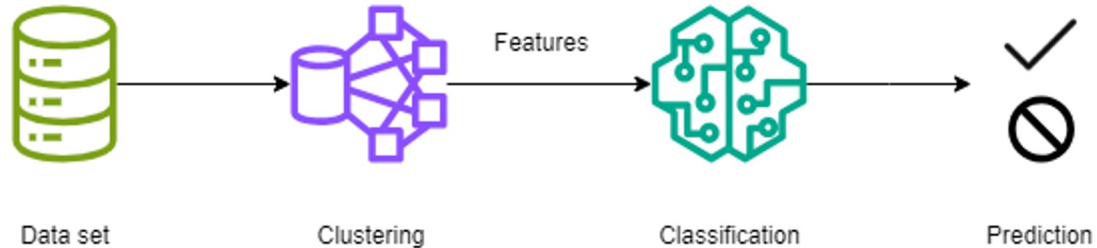


Problem Statement

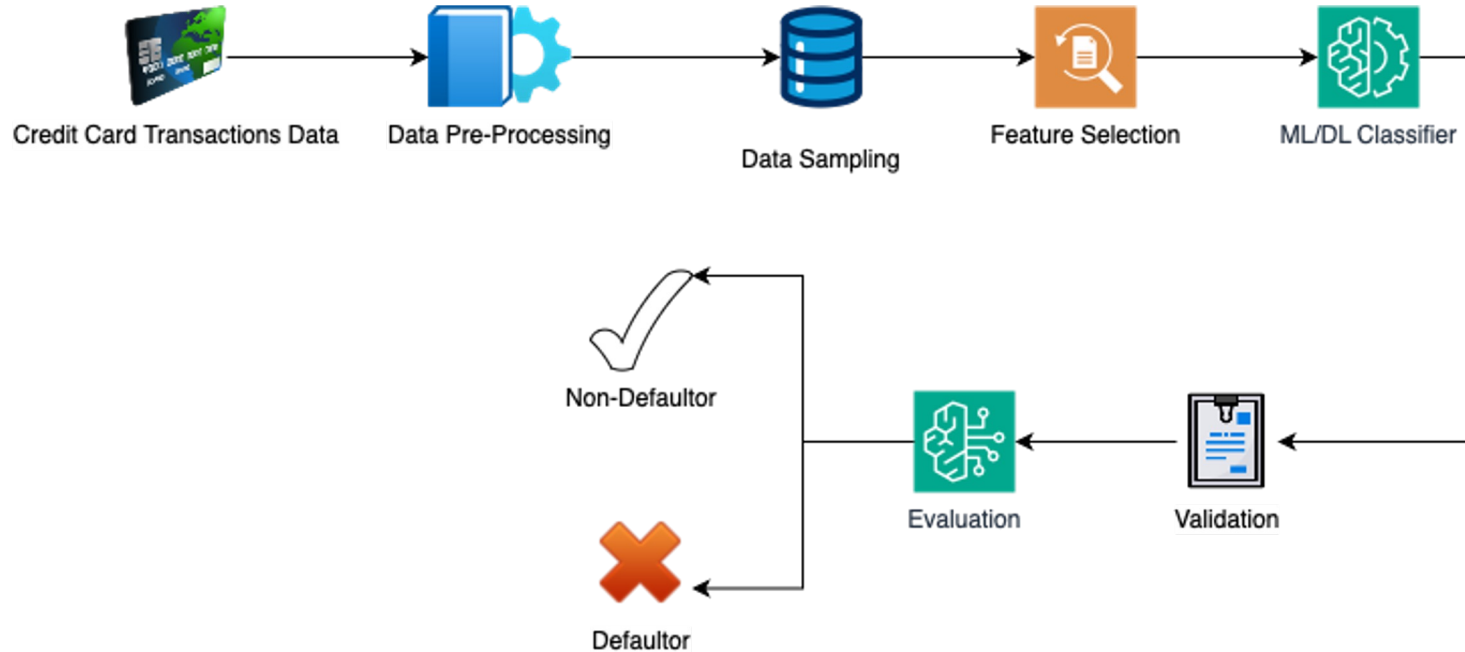
- Develop a machine learning model to predict credit default
 - Improving lending decisions & enhancing the customer experience
- 

Essential Task

- Clustering
- Classification

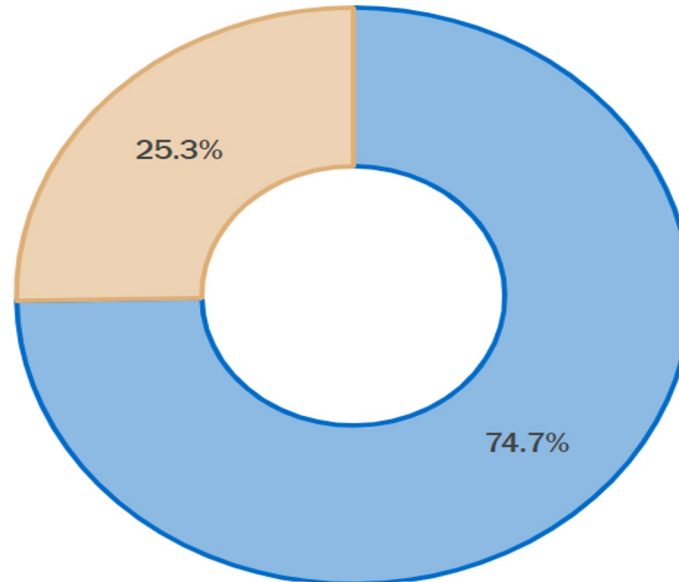
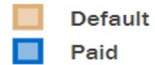


Data Mining Pipeline



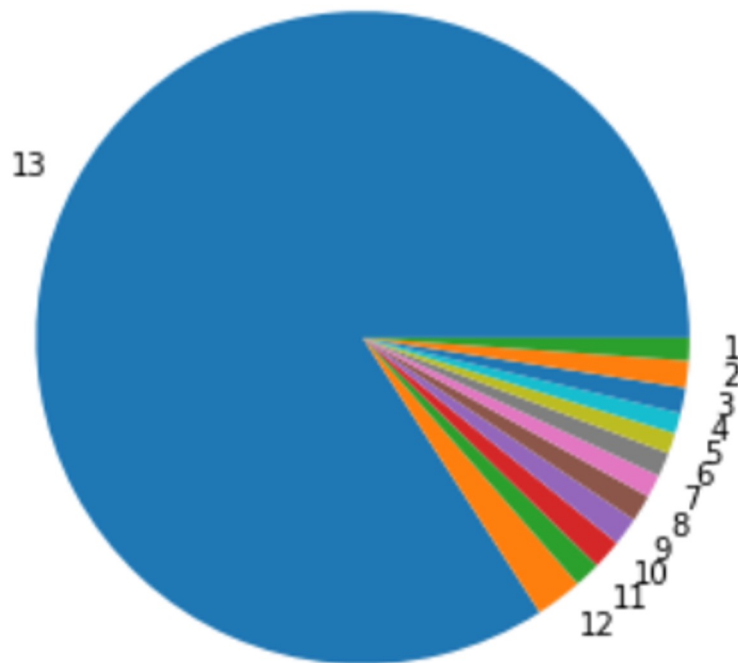
Exploratory Data Analysis

Predicted Target Distribution

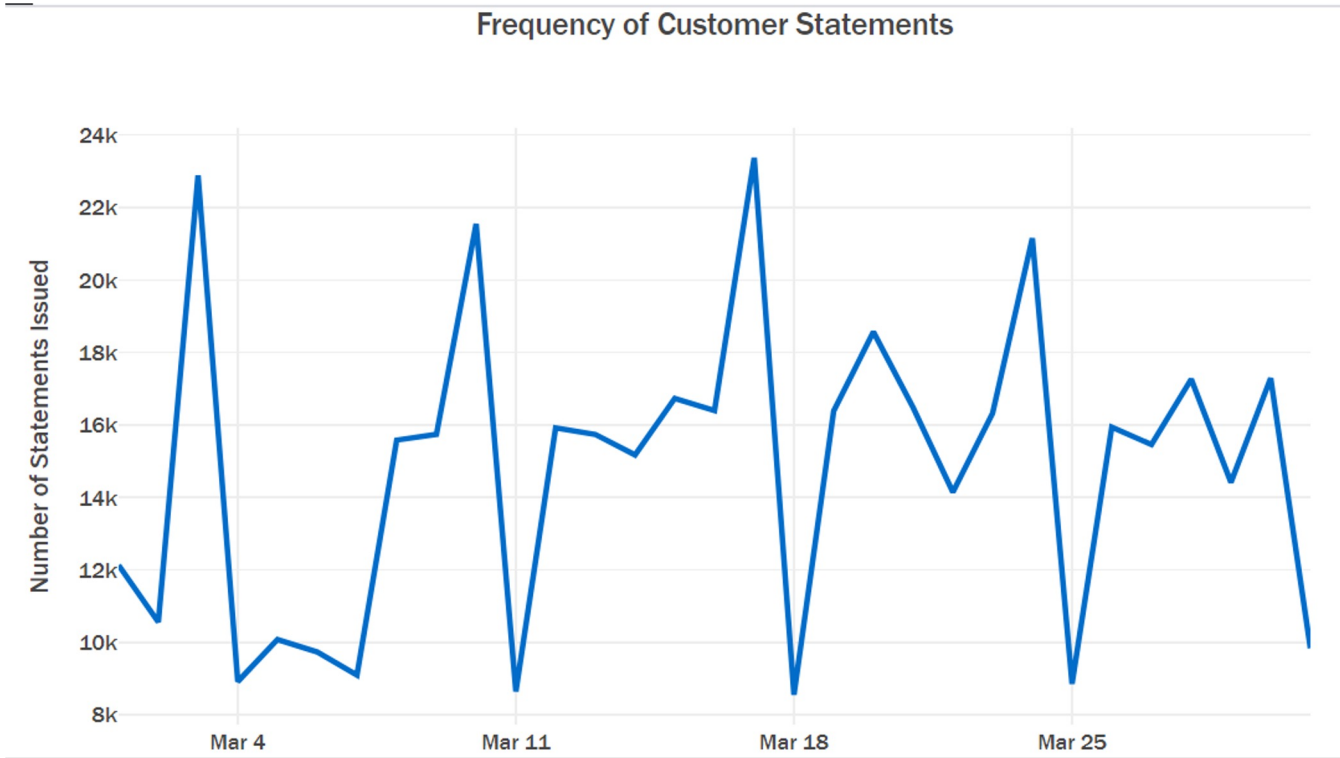


Exploratory Data Analysis

Train statements per customer

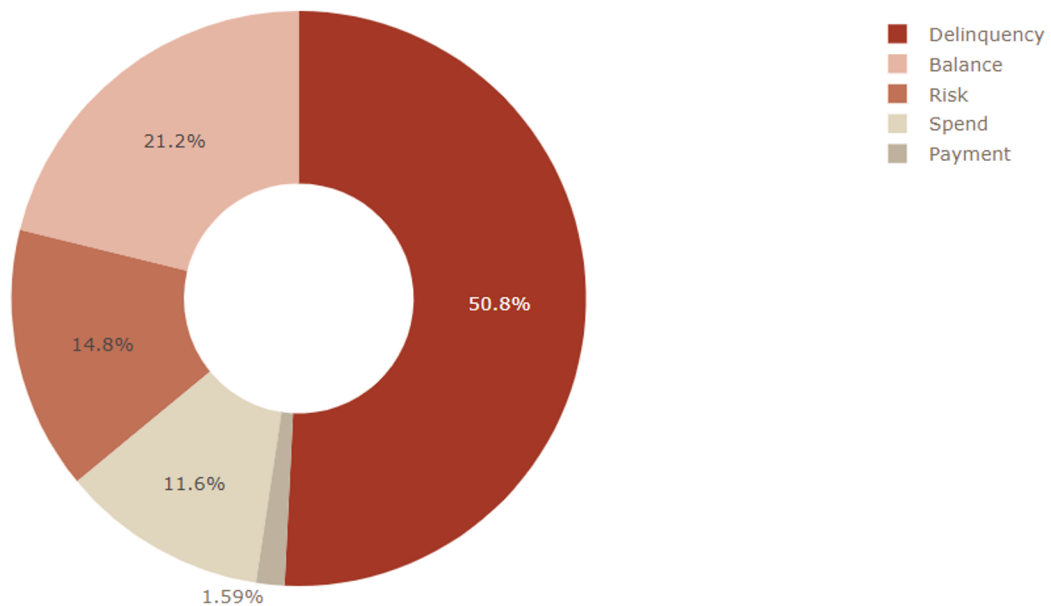


Exploratory Data Analysis

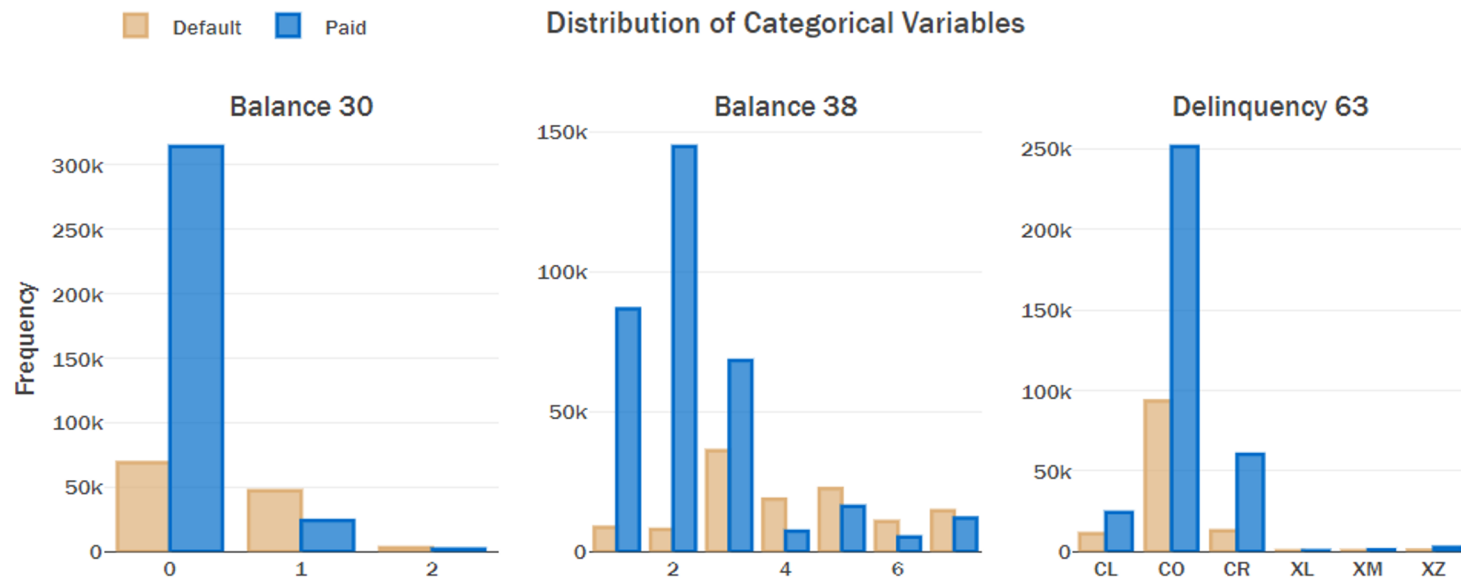


Exploratory Data Analysis

Feature Distribution

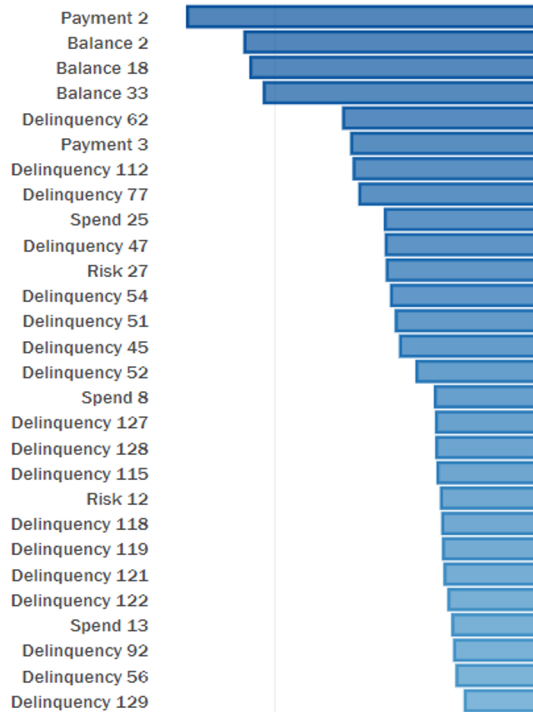


Exploratory Data Analysis



Exploratory Data Analysis

Feature Correlations with Target



-0.5

0

0.5

Correlation

Pre-Processing

- Convert every columns to their right datatype.
- Keeping only features which give high correlation with our target
- Check for null values percentage per feature and remove ones which have more than 80%.
- Impute median values for other features with less than 80% null value.

Model Accuracy

- Random Forest
Accuracy - 85.11
- Logistic Regression
Accuracy - 86.90

Potential Issues

- As we are dealing with SOL due to our large dataset size, there are instances when the SOL crashes making it difficult to work with.
- As we are dealing with a completed competition, we will have to split the train dataset into train, and test. Although it is a very large dataset it still restricts the generalization of our models.

Future Works

- Try out more models
- Integrate the use of historical data for each person.
- Implement both classification and clustering algorithms sequentially using each others data.

The image features a white background with decorative elements in the corners. In the top-right, bottom-left, and bottom-right corners, there are sets of concentric blue circles that fade out towards the edges. The text "Thank You" is centered in a large, bold, black font.

Thank You