



Credit Card Eligibility

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Project Overview

Analyzed dataset to gain insight into the key factors influencing credit card eligibility and to assess the dynamics of credit card eligibility determination

We chose this project as a result of the increased use of contactless payment, the prevalence of consumers that have credit cards, and because it provides insight into the informed decisions made regarding whom may or may not be eligible for a credit line

For ease of interpretation we identified the following:

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Project Goals/Questions Answered

The aim of our project is to uncover patterns in credit card fraud. We'll examine relationships between transaction types and location, purchase prices and times of day, purchase trends over the course of a year, and other related relationships derived from the data.

Data Collection

The data we selected for this presentation was sourced from Kaggle.

We would like to acknowledge and thank the author:

Cleanup & Exploration

- Data type analysis
 - Value counts
 - Null values
- Clean data
 - Check imbalance target data
 - Any missing values
- Resampled data
 - Concatenate
 - Any missing values
 - Drop duplicates
- Correlation matrix
- Visualize subset of data
 - 19 unique values
 - Gender/ Age
 - Ownership: Car/Property
 - Phone & Email
 - Employment / Education type
 - # Fam/ # children/ family status
 - Acct length
 - Income
 - Year employed
 - Housing type/Occupation/type

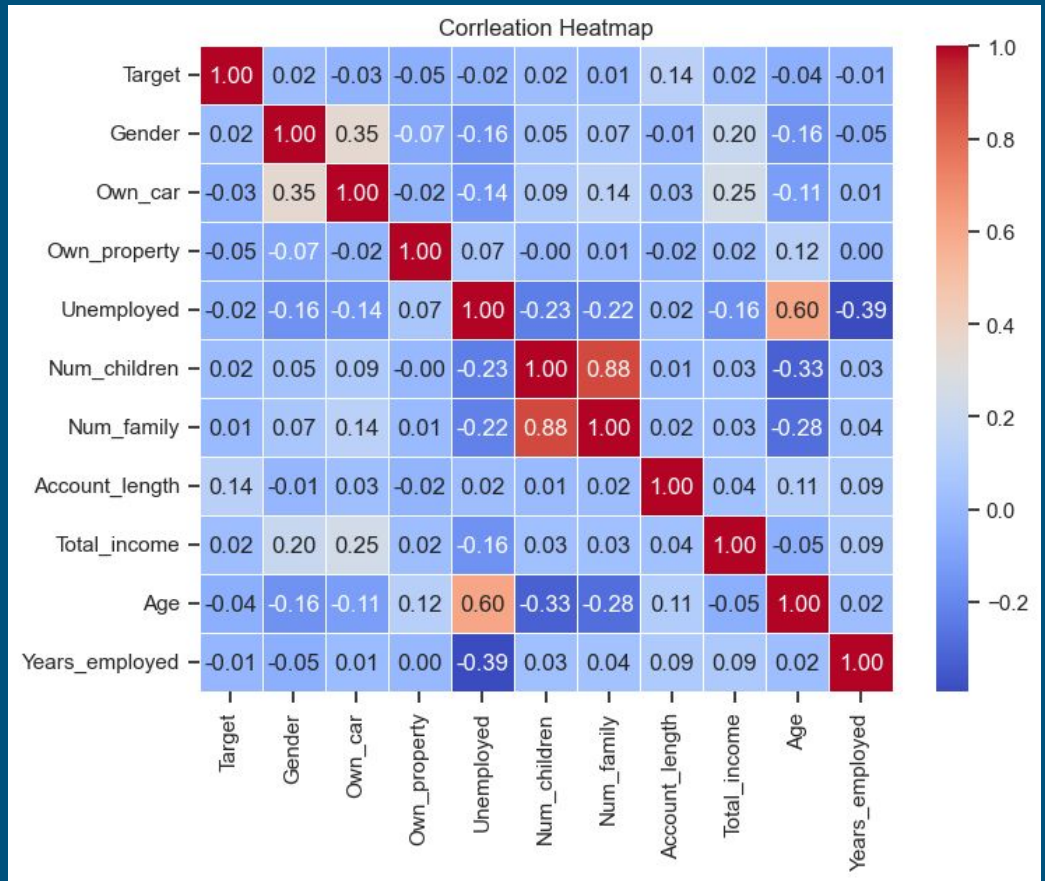
Approach & Project Goals

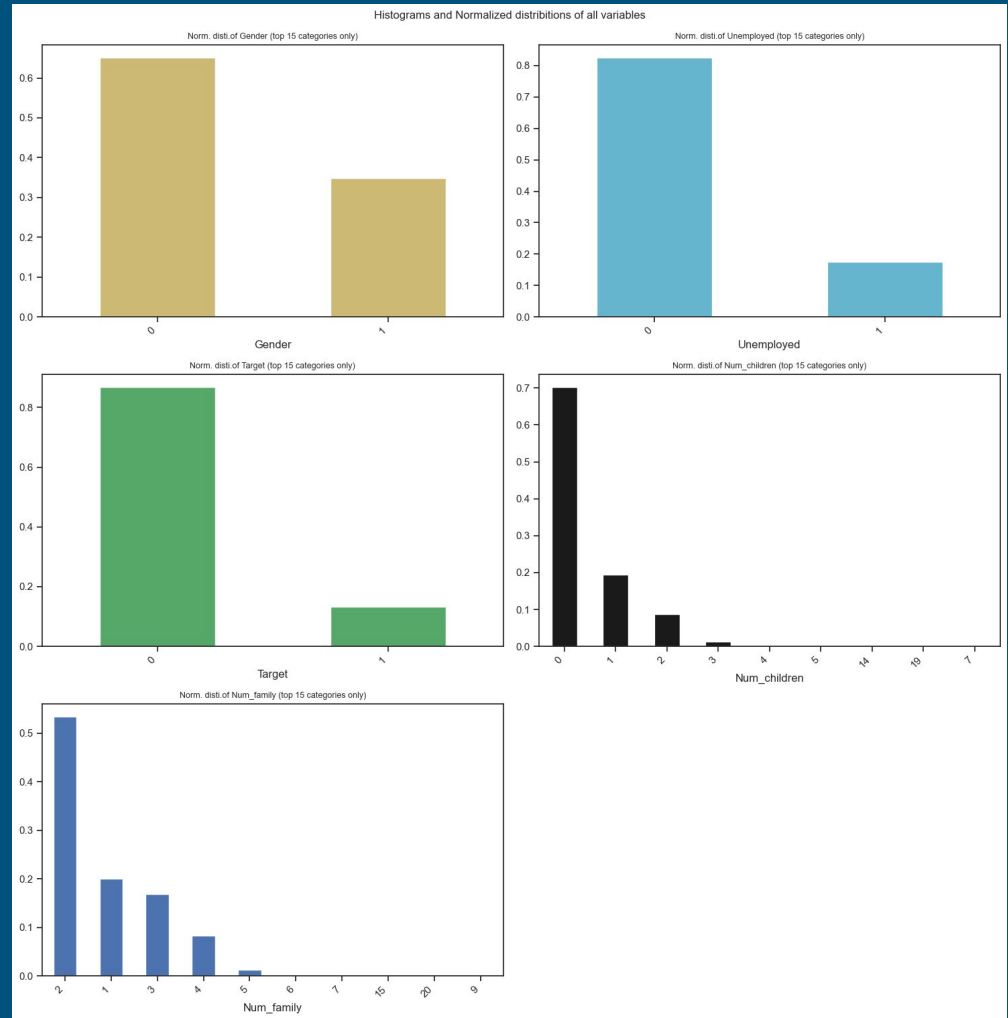
- Created outline delegating tasks
- ID project manager
- Daily objectives
- Overcame blockers with root cause analysis and documentation investigation
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- Team members ensuring accuracy of content

Approach: Code

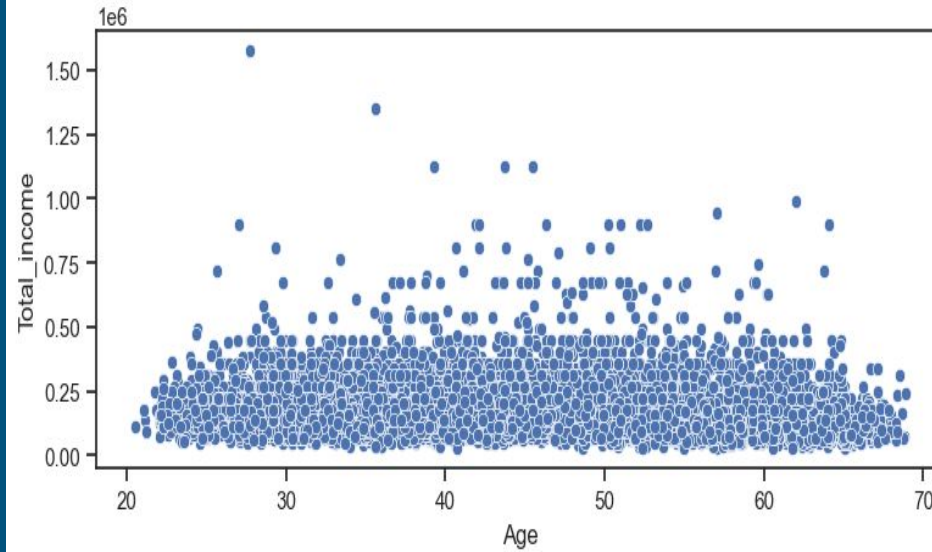
- Pandas
- Sklearn: model selection, preprocessing, standard scaler, label encoder, linear model, logistical regression, SVC, Kneighbors, DecisionTree, RandomForest, ensemble, Adaboost, GradientBoost, Metrics, utils
- Numpy
- Seaborn
- Matplotlib
- Scipy.stats
- AutoViz
- OneHotEncoder

Data Transformation/Data Analysis/Testing





Pair-wise Scatter Plot of all Continuous Variables



Conclusions & Application

Conclusions & Application

k: 1, Train/Test Score: 1.000/0.526

k: 3, Train/Test Score: 0.763/0.561

k: 5, Train/Test Score: 0.706/0.549

k: 7, Train/Test Score: 0.676/0.543

k: 9, Train/Test Score: 0.657/0.545

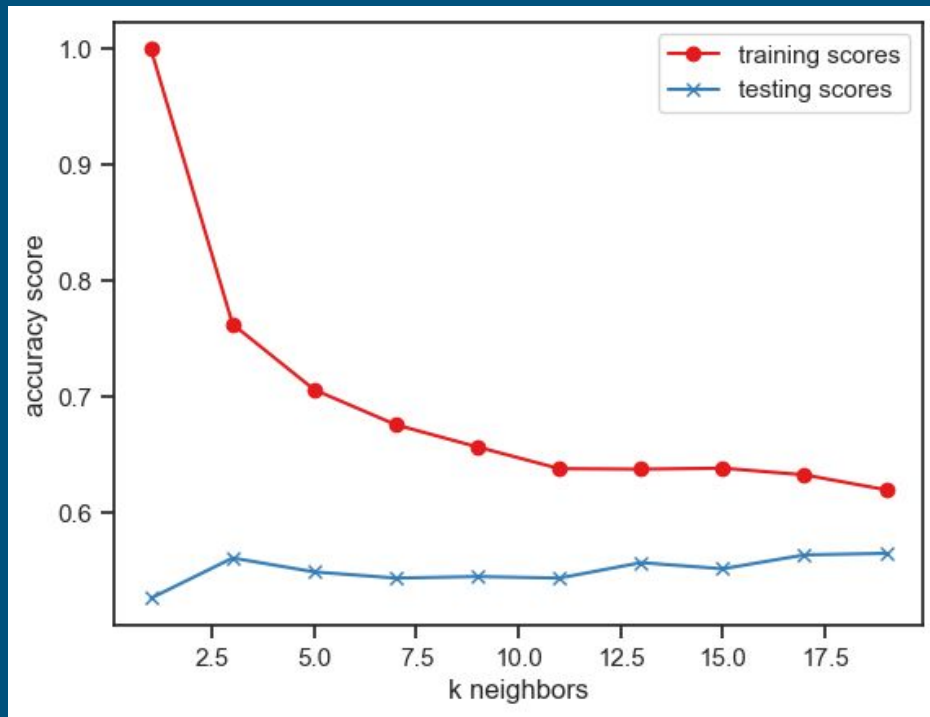
k: 11, Train/Test Score: 0.638/0.543

k: 13, Train/Test Score: 0.637/0.557

k: 15, Train/Test Score: 0.638/0.551

k: 17, Train/Test Score: 0.633/0.563

k: 19, Train/Test Score: 0.620/0.565



Summary

Through this analysis we aimed to provide insights into how credit card eligibility is determined. The results obtained can serve a variety of entities such as researchers, analysts, and financial institutions as a basis for further insights to the key factors influencing credit card eligibility and to develop predictive model that assist with automating the credit assessment process.

Can improve informed decisions, improve risk assessment, and enhance customer targeting

Problems Encountered

Future Considerations

- How do we make the model better
- What other models could be used



Q & A

