



Loan Prediction

Project Overview

Problem: Loans are one of the more common financial products offered by banks & finance houses. They are always trying to figure out the most effective business strategies to persuade customers to apply for their loans. In spite of the checks and balances put in place for loans, there are some customers that prove to be bad investments after their applications have been approved. To reduce the chances of too many borrowers defaulting, financial institutions have to find some method to predict customers' behaviours. Machine learning algorithms have proven to have good performance.

Requirements: A front end web form to get user data. A back end model used for prediction (loan approved or denied)

Solution: Use historical data to build the model. Experiment with the different models. Evaluate the different models to find the best performing one which will be deployed in production.

Technologies: Numpy, scikit-learn, Pandas, Seaborn, Matplotlib, Jupyter Notebook, Anaconda 3, Flask, Pickle, XGBoost, Logistic Regression, Voting Ensembles, Boosting, Bagging, Decision Trees, Logistic Regression, Random Forest, Web Services

Loan Demo

Applicant Information

First name: Last name:

Gender Type

Gender: ☐ Male ☒ Female

Marital Status Type

Marital Status: ☐ Single ☒ Married

Dependents Information

Number of dependents:

Education Type

Education: ☒ Graduate ☐ Non Graduate

Employment Type

Self Employed: ☐ Yes ☒ No

Property Area Type

Property Area:

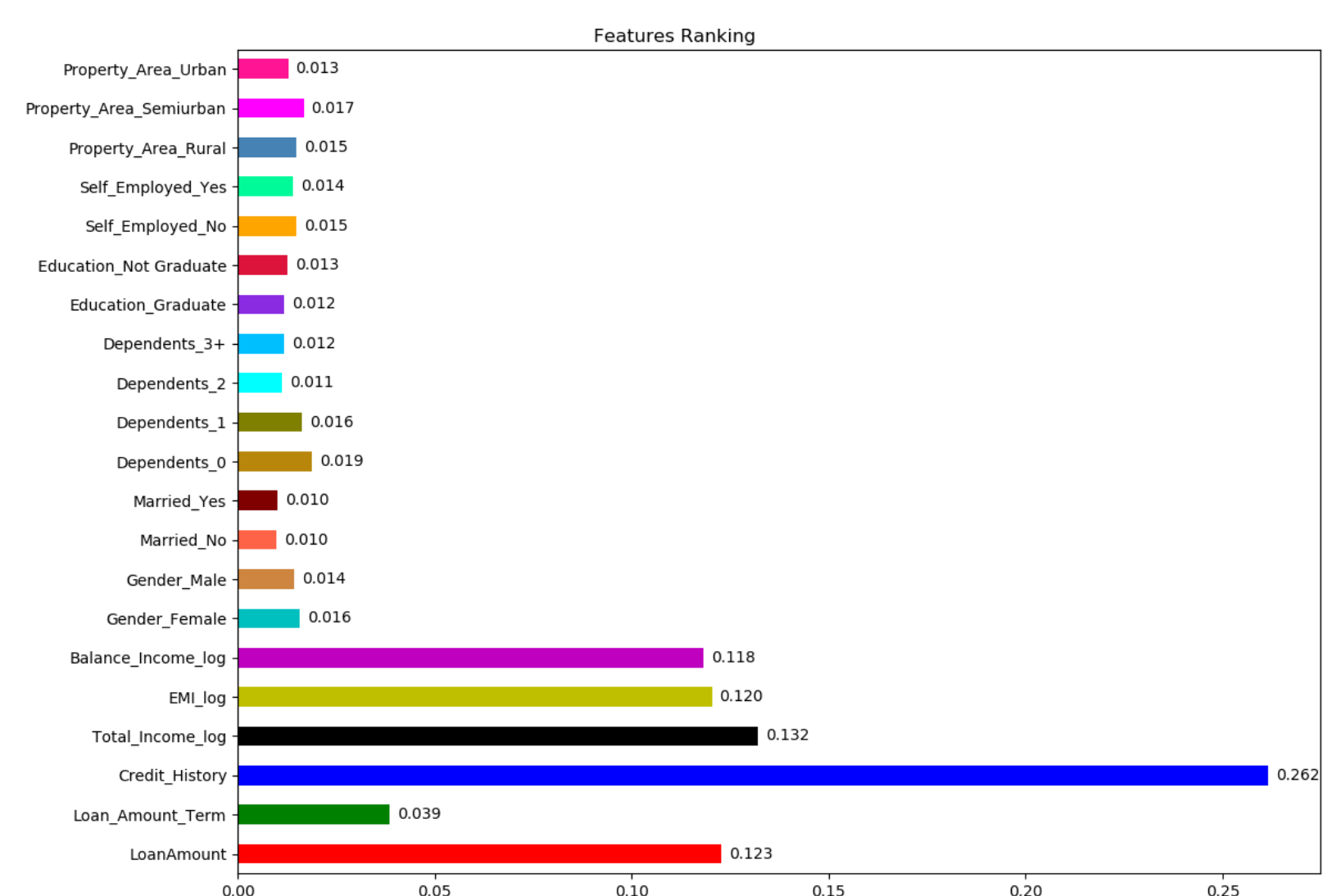
Income Information

Applicant Income (monthly): CoApplicant Income (monthly):

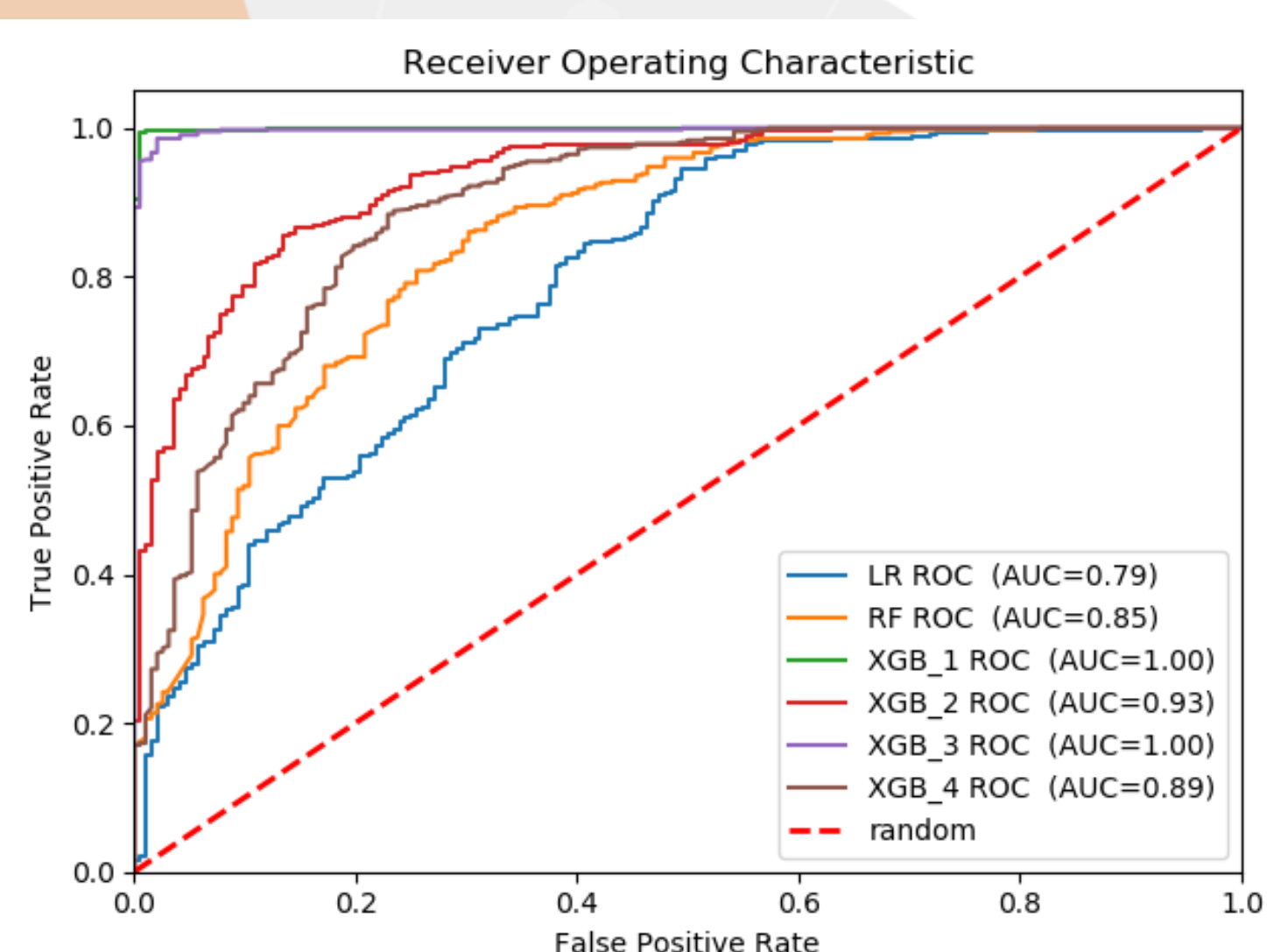
Loan Terms

Loan Amount (in thousands): Loan Term (in months): Credit History (0 or 1):

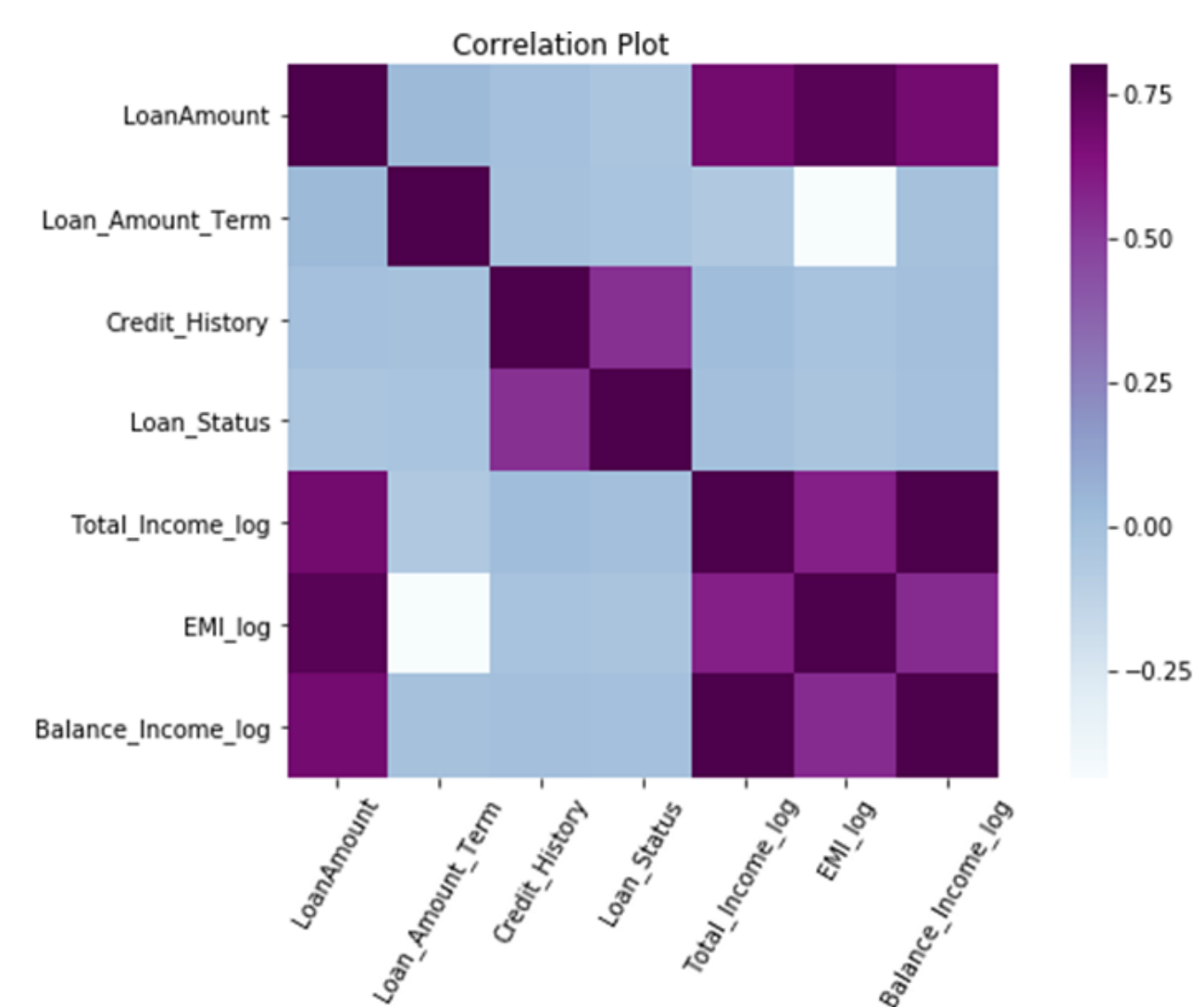
Loan Demo Web Page



Feature Ranking



ROC Curves



Feature Correlation