Proposal for Project 4 Capstone

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Our goal is to analyze credit card data, loan approval data, and determine whether someone’s credit application or loan application is approved.

1. Data source

<https://www.kaggle.com/datasets/samuelcortinhas/credit-card-classification-clean-data>

<https://www.kaggle.com/datasets/arbazkhan971/loan-approval-analysis>

1. Motivation

Money and loans are very important to a functioning economy, and we would like to see that everybody has access to loans.

1. Website
2. Create a form that inputs data to predict whether loan application is approved
3. Create a dashboard to see the relationships between various variables such as education/housing/income and whether an application is approved
4. Research Questions
   1. What are the most important variables to getting a loan application approved?
   2. If the most important variables are removed, what is the relationship between the next most important factors?
   3. Is the process fair?
5. Predictions
   1. Income will be the most important factor
   2. Other factors such as education, housing, and family will play a role
6. Colors
   1. Simple, clear, clean, and somber colors to represent our topic
7. Roles
   1. Raymond: Tableau dashboard 1
   2. Han: Tableau dashboard 2
   3. April: Machine Learning Tree/Classifier Models
   4. Sajid: Machine Learning Neural networks
   5. Everybody: Website

Tableau public links:

<https://public.tableau.com/app/profile/caesarmario/viz/CreditCardApplicantDashboard/ApplicantDashboard>

<https://public.tableau.com/app/profile/mehmet.su/viz/CreditCardApproval/CCApproval>

Sajid: loan data machine learning. I have been working on cleaning the data set, and I hope to have a working neural network and some classification models tomorrow

Raymond: Credit Card data machine learning (Standard Scaler, one-hot, and SMOTE)

Standup: 03/13/2023

1. We have working machine learning models for two datasets—credit card approval data and loan default prediction data
2. We started making some Tableau graphs on the credit card dataset
3. We have to make a cleaned loan dataset for Tableau
4. We need to tune our models with hyperparameters to make them better

Standup: 03/14/2023

1. We have two functioning Tableau dashboards, one for each dataset
2. We have a webform for credit card approval. We are working on integrating the webform with Flask
3. We still do not have a loan data approval form, and our main website skeleton has not been set up
4. For Thursday, we would like to finish our websites, setup the Flask server, and fine tune the Tableau dashboards