How to Run the Code

1. Please refer to the requirements.txt and run command "pip install -r requirements.txt" in your terminal to have all the packages

2. Open the file name program.ipynb through Jupyter and run the whole file. Please run the code INSIDE the Team USC folder.

3. The regression results and ML algorithm result will be presented in the terminal.

4. Following regression results, we provide a prediction of the Profitability and Sustainability Score based on a new model created by us.

5. The last part of the code displays the dashboard.

Code Overview

Our code includes six parts: Import Necessary Packages, Exploratory Data Analysis, Portfolio Environmental Score Regression, Portfolio Social Score Regression, Model Development – Random Forest Regressor, and Visualization (Dashboard)

- Import Necessary Packages

  This part includes importing packages such as pandas and sklearn for analysis.

- Exploratory Data Analysis

  This part contains a simple descriptive analysis for the Morningstar data.

- Portfolio Environmental Score Regression

  This part shows the regression of Environmental Score as the dependent variables and other independent variables from Morningstar and Bloomberg data.

- Portfolio Social Score Regression

  This part shows the regression of Social Score as the dependent variables and other independent variables from Morningstar and Bloomberg data.

- Model Development – Random Forest Regressor

  This part includes the new model we created for scoring funds with prediction.

- Visualization (Dashboard)

  This part contains the dashboard for our findings with explanation..