

Peer Review - Julia, Vishnu and Mia for Feng and Yining

Introduction and Data

The research question is clearly stated and the introduction is detailed while remaining concise. The data set is appropriately cited, but I'm unsure exactly how the data was collected; it says it was compiled by Professor Hans Hoffman, but could use more detail on the data collection process. No data wrangling/cleaning is described, so I assume none was done, but would specify in the report.

Under the "Data Collection" section, you do a good job at laying out the relevant attributes. I am a bit confused on exactly what a few of the variables are measuring (installment rate, savings account status) and you could provide the levels for the categorical variables (marital status, job category, purpose of credit).

Methodology and Results

I wish there were more exploratory data visualizations, to show the reader the distribution of key variables, descriptive statistics, and potential correlations between variables. This could be achieved with simple scatter plots, box plots, bar charts etc. However, the feature importance visualizations are effective; they could be improved by labeling the attributes as the variable name (e.g., Duration in Months instead of Attribute2) so the viewer could digest the visualizations more effectively.

You clearly justify each method that you use (SVM, Boost, Random Forest, etc.) and these seem like appropriate choices for your research question. I appreciate your explanation of why you did not apply a logistic regression model to this data. I think the research question was answered effectively.

Discussion

I would not recommend referring to your variables as Attribute1, Attribute2, etc.; instead, use the variable label that they correspond to so the reader doesn't have to refer to a data dictionary when reading. Good job addressing limitations about generalizability. I was really glad that you addressed the potential problems with credit scoring algorithms, as these algorithms can certainly reproduce and magnify pre-existing discriminatory practices. I feel like you could elaborate more on the potential discriminatory/unethical potential of your credit scoring algorithms, as it is a huge topic of discussion in this field!

Formatting

Code is not commented, code chunks are not labeled, but those are easy fixes! Also, it would be helpful if you explain analysis parameters such as F-1 score, at least the first time it is mentioned.

General

The writing is very clear and succinct. Most of the code is suppressed and not visible, so we were not able to clearly follow or reproduce the workflow of the project. Beyond code, the report is well-laid out. I like the way you lay out future directions for this project, very comprehensive.

Final Considerations

What is one question you have for the group after reading their analysis?

- In your conclusion, you mention the ethical concerns for credit scoring models. However, I am wondering, how do you plan to address these concerns for your project? How do you plan to build your model to avoid bias?

What is one thing the group has done especially well?

- Like mentioned above, the project is very well structured. It has a clear flow and is easy to understand. I appreciate the fact that they use various models to test each of its effectiveness and in the conclusion talk about each of the models strength.