



PHASE III PROJECT: CLASSIFICATION OF BORROWER CREDITWORTHINESS

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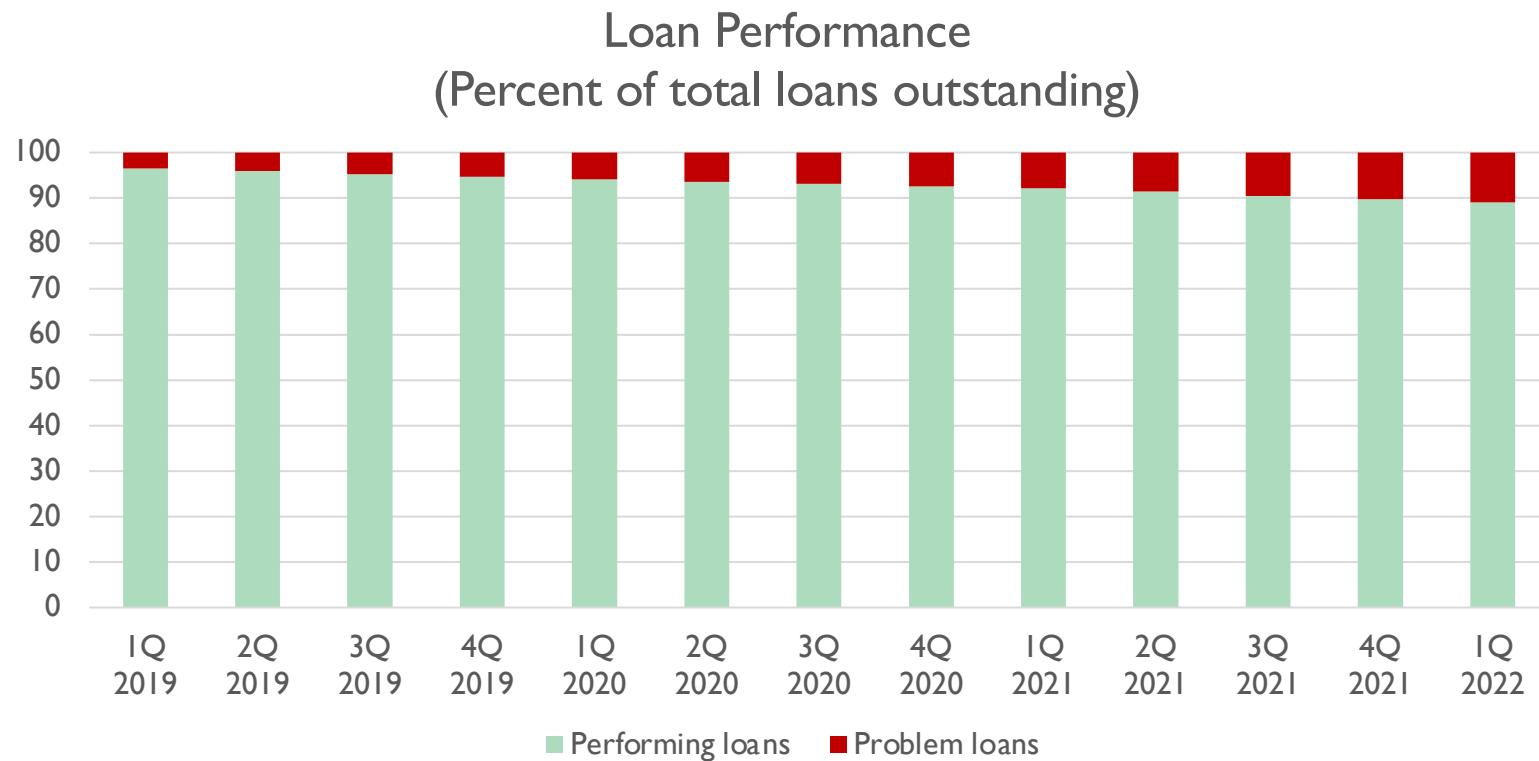
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PROBLEM STATEMENT

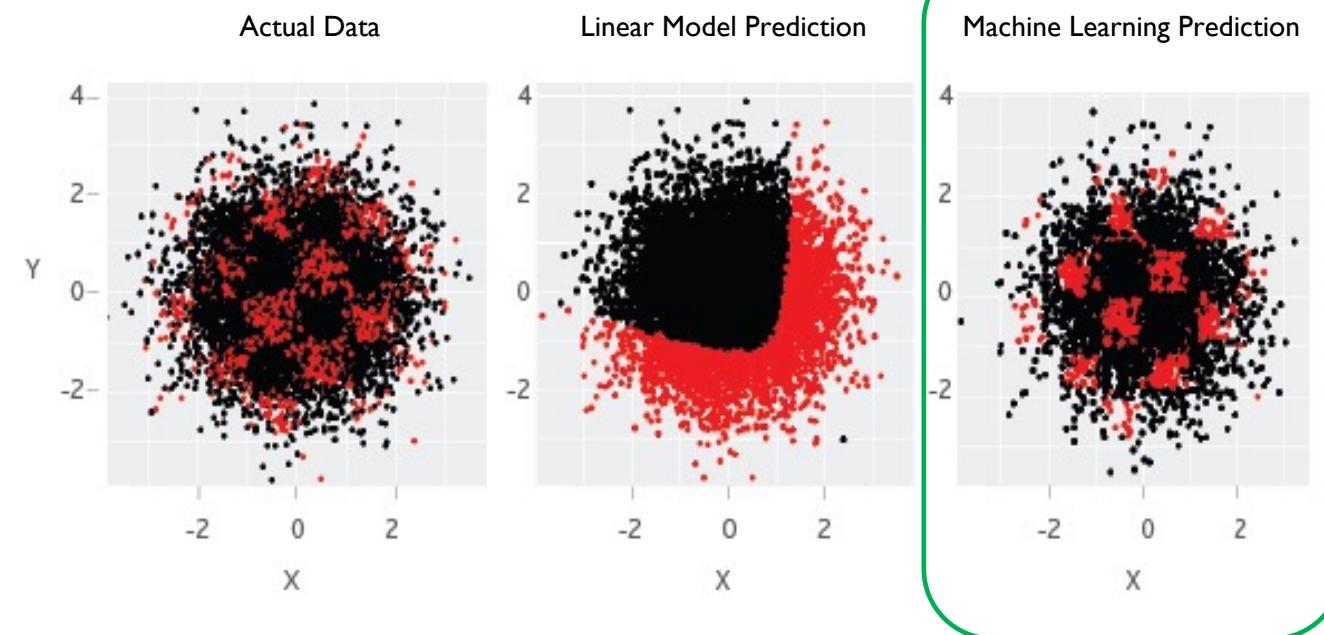
A German bank is struggling to identify creditworthy borrowers:

- Missed business opportunities to extend credit to good borrowers
- Increasing credit losses from non-performing loans



GOAL

Build a machine learning model that is trained to assess and predict credit risk of borrowers (creditworthy / not creditworthy)



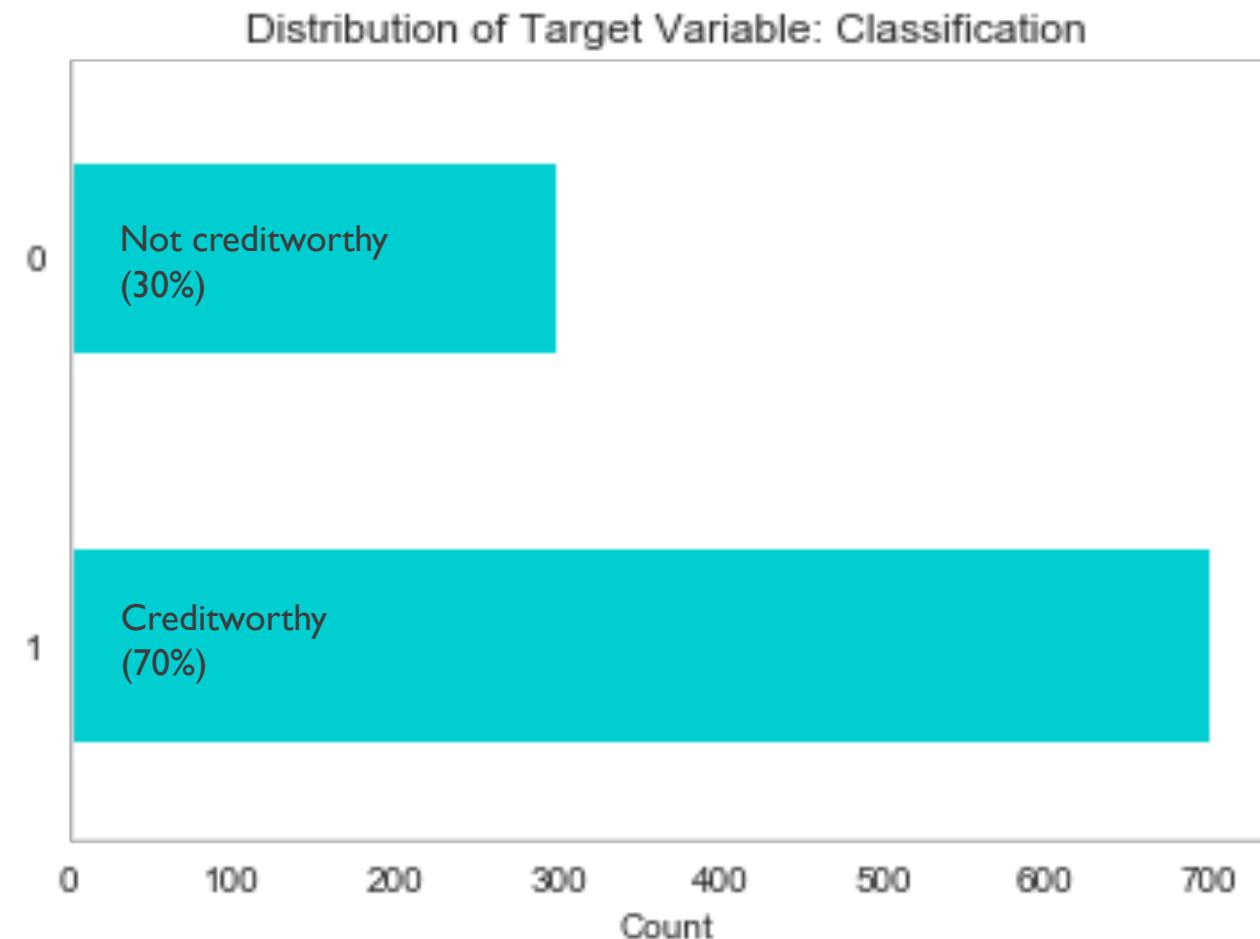
DATA UNDERSTANDING

Data

- German credit data
- > 1,000 records
- 21 variables

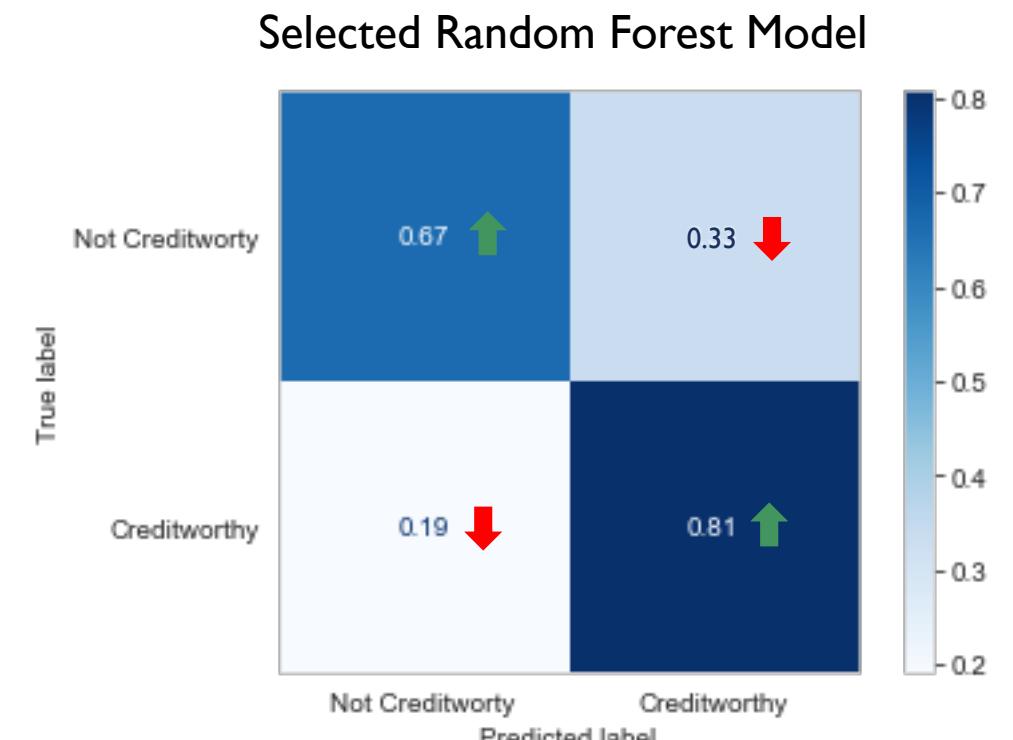
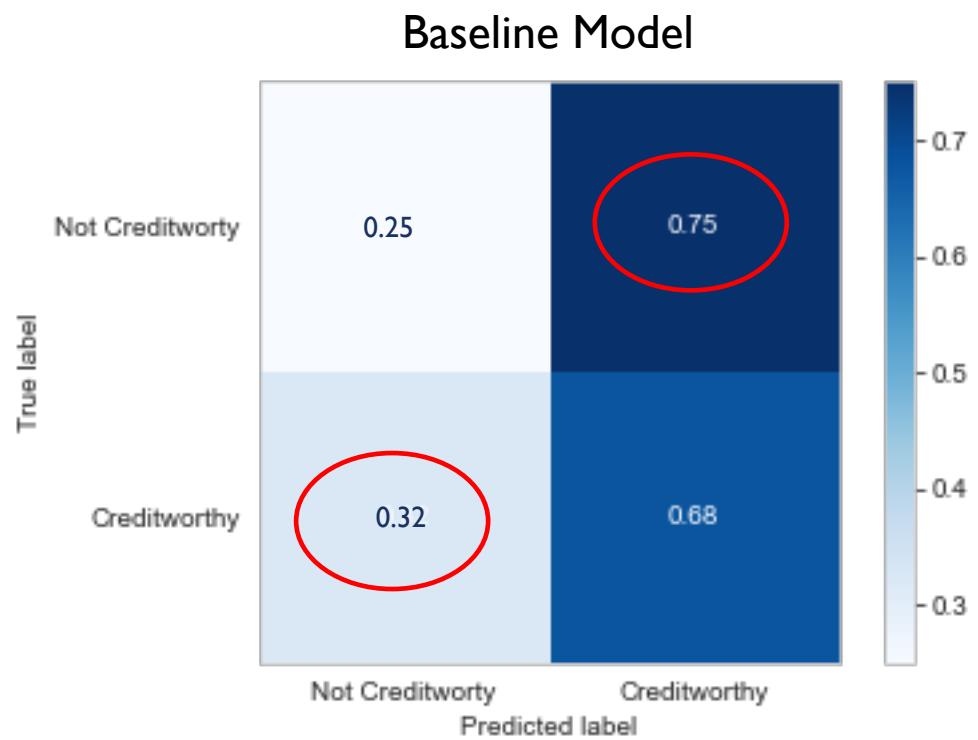
Methods

- Descriptive data analysis and statistics
- Machine learning



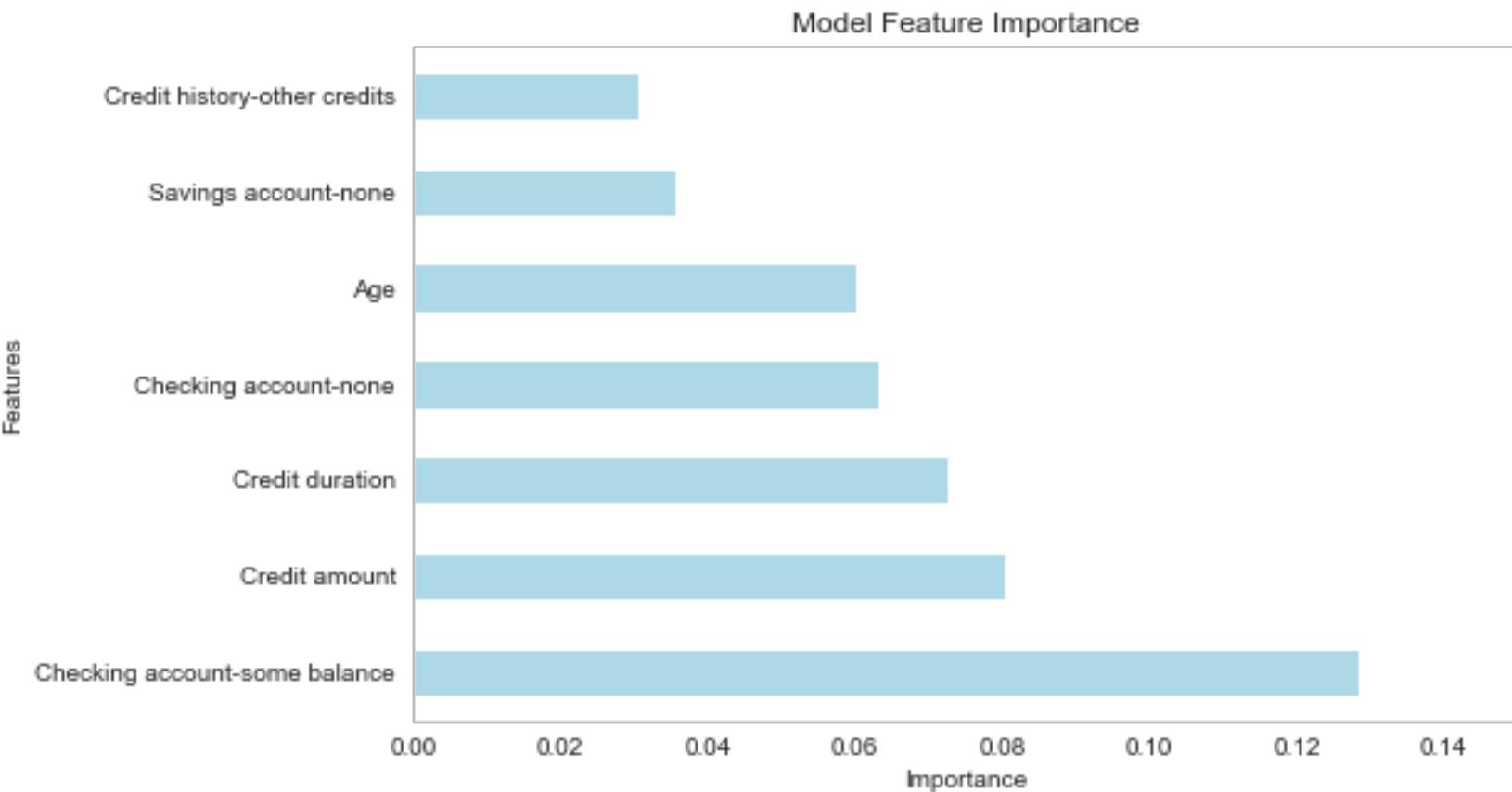
RESULTS

- Model correctly predicts 81% of true creditworthy classifications
- Reduces false positives and false negatives



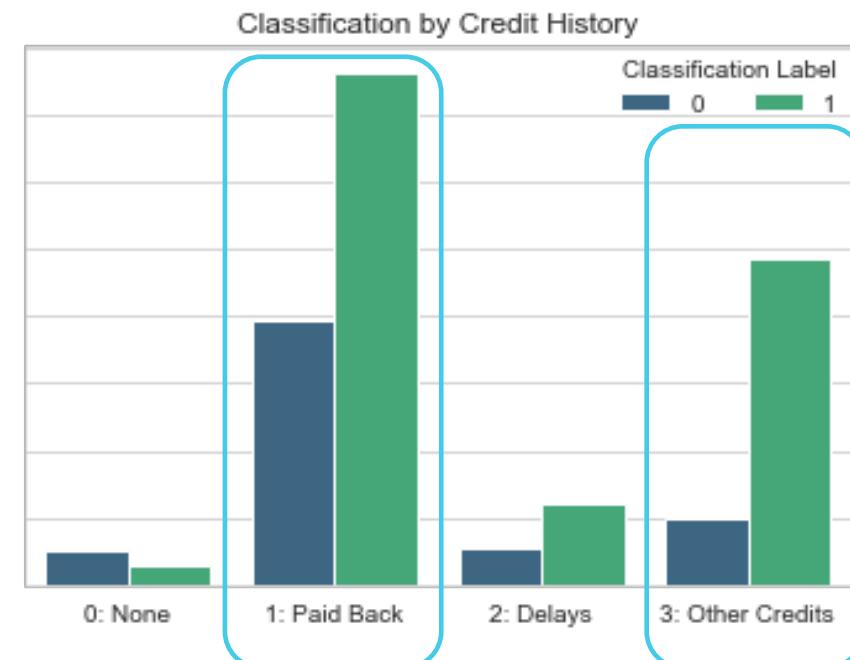
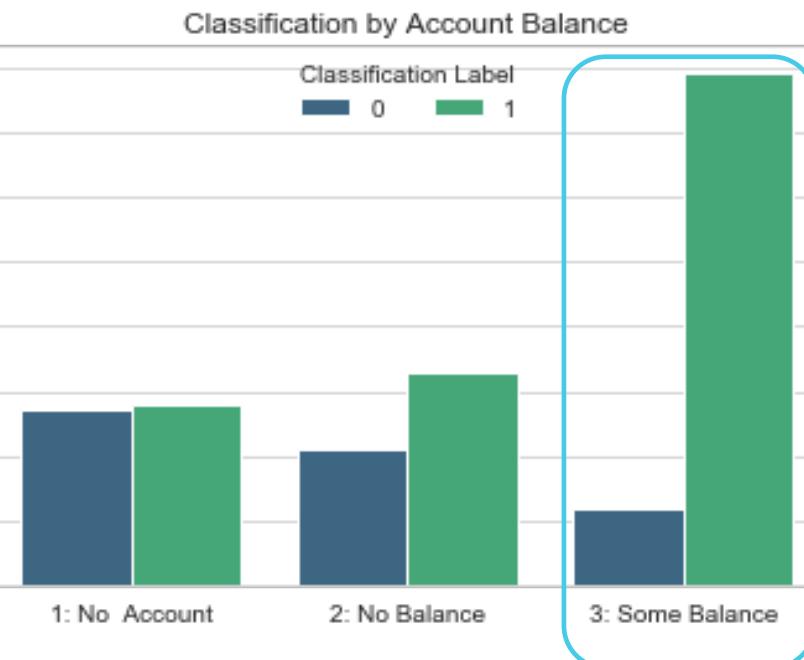
RESULTS

- Accuracy score of 77%
- Precision score of 85%



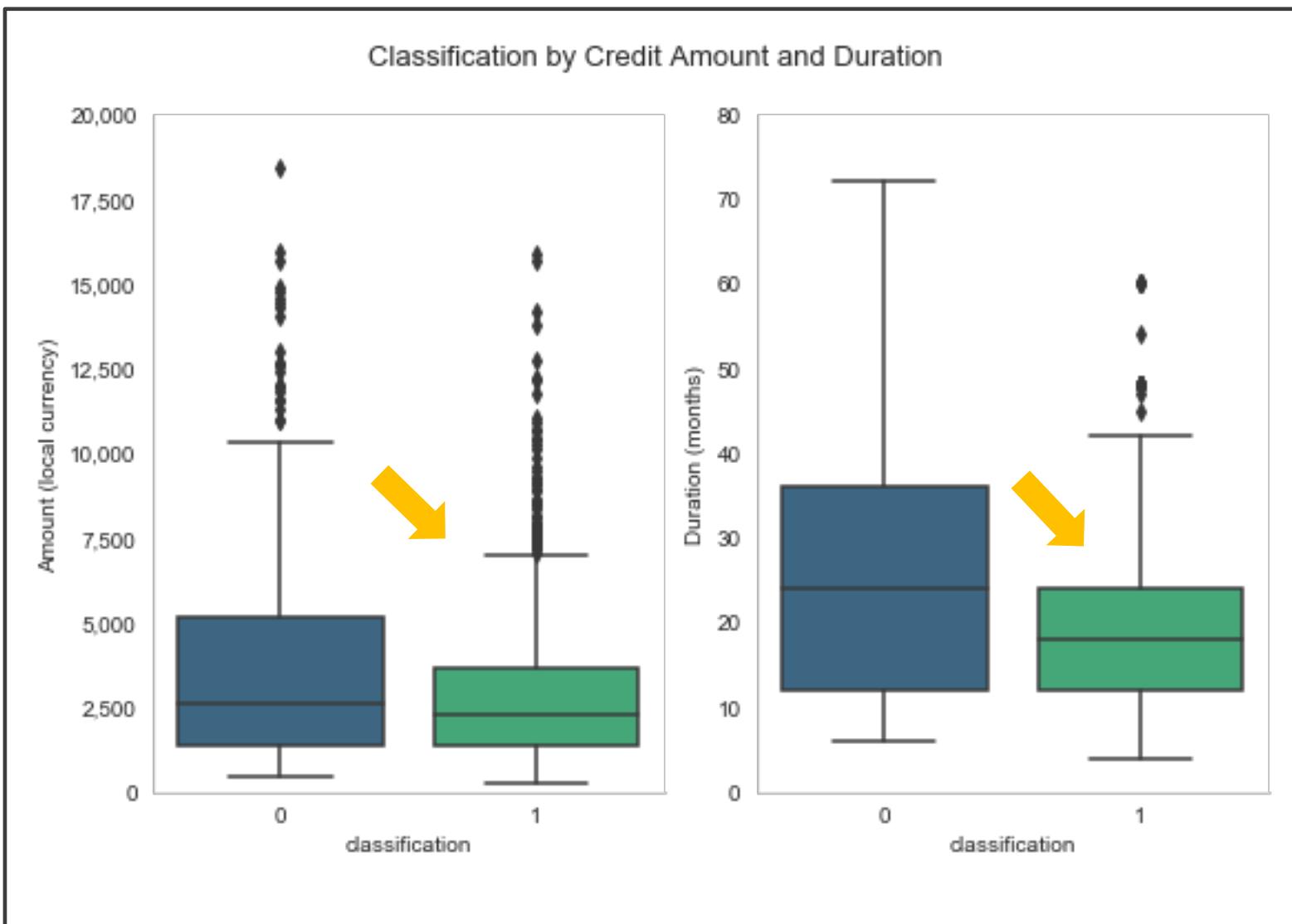
RECOMMENDATIONS

- Target making loans to borrowers:
 - With some balance in their checking accounts
 - Who have paid back previous loans duly
 - Who have other existing credits



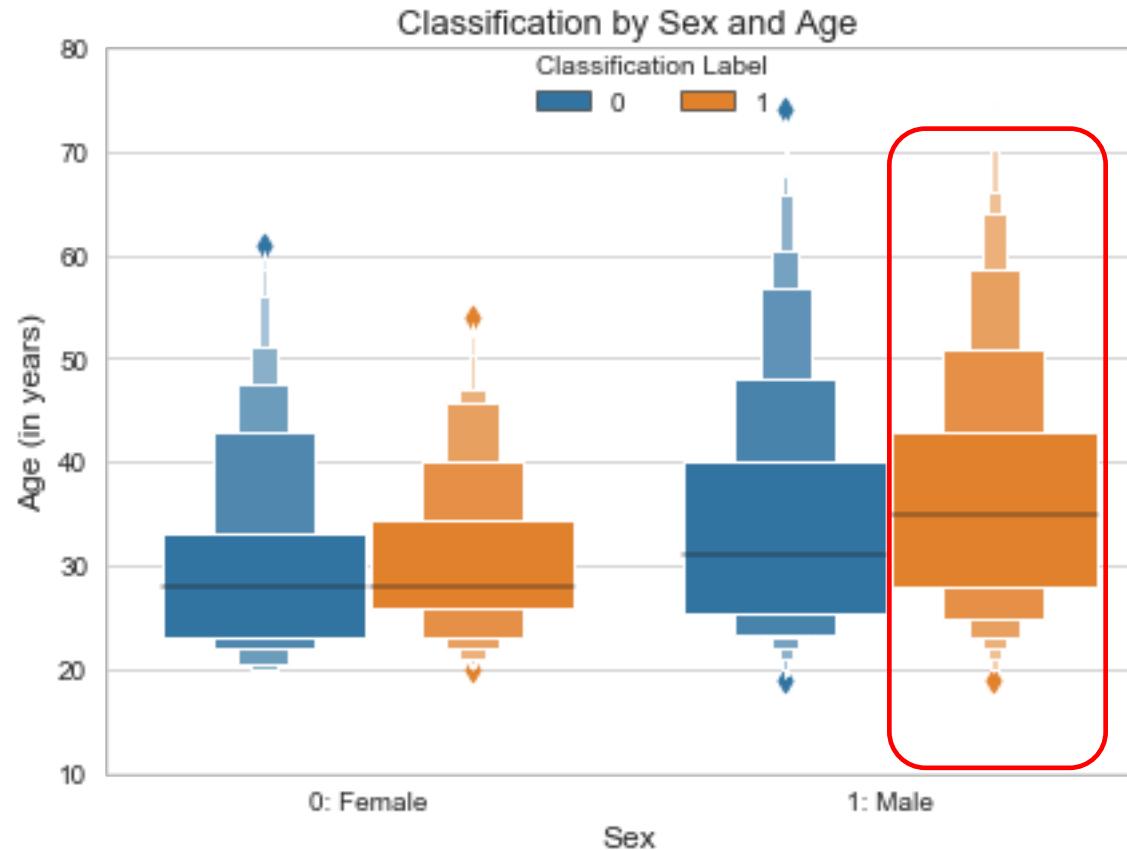
RECOMMENDATIONS

- Target making loans with terms:
 - Average balance of \$3,000
 - Average duration of 19 months



MODEL BIAS

- Model favors classifying older men as creditworthy



NEXT STEPS: EXTENDED ANALYSIS



Evaluate ML model's performance against traditional credit risk assessment



Reduce model biases in order to promote fair and equitable decision-making

THANK YOU

For questions, contact:

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