WKU GORDON FORD COLLEGE OF BUSINESS
BUSINESS DATA ANALYTICS

Credit Default Prediction

GOAL: Determine whether or not a credit line should be offered to borrowers.

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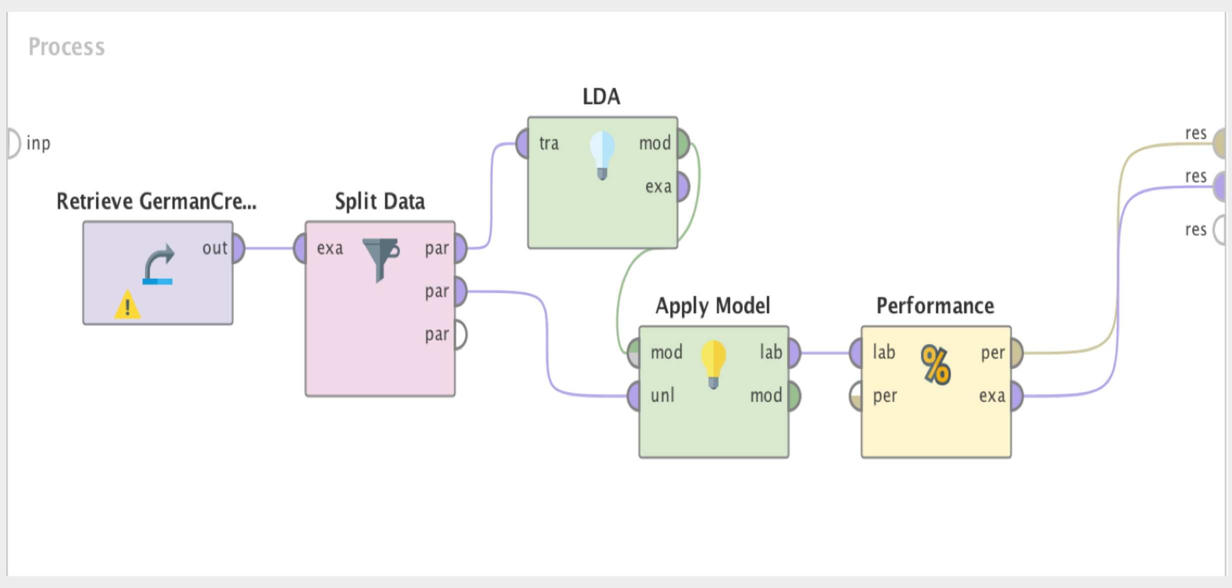
The dataset had many attributes that would factor into a credit score, such as what you are buying with credit, employment status, and whether or not you pay your bills on time.

By using, this data, we were able to predict if people were going to have good credit and pay back their loan or have bad credit and default on their loan.

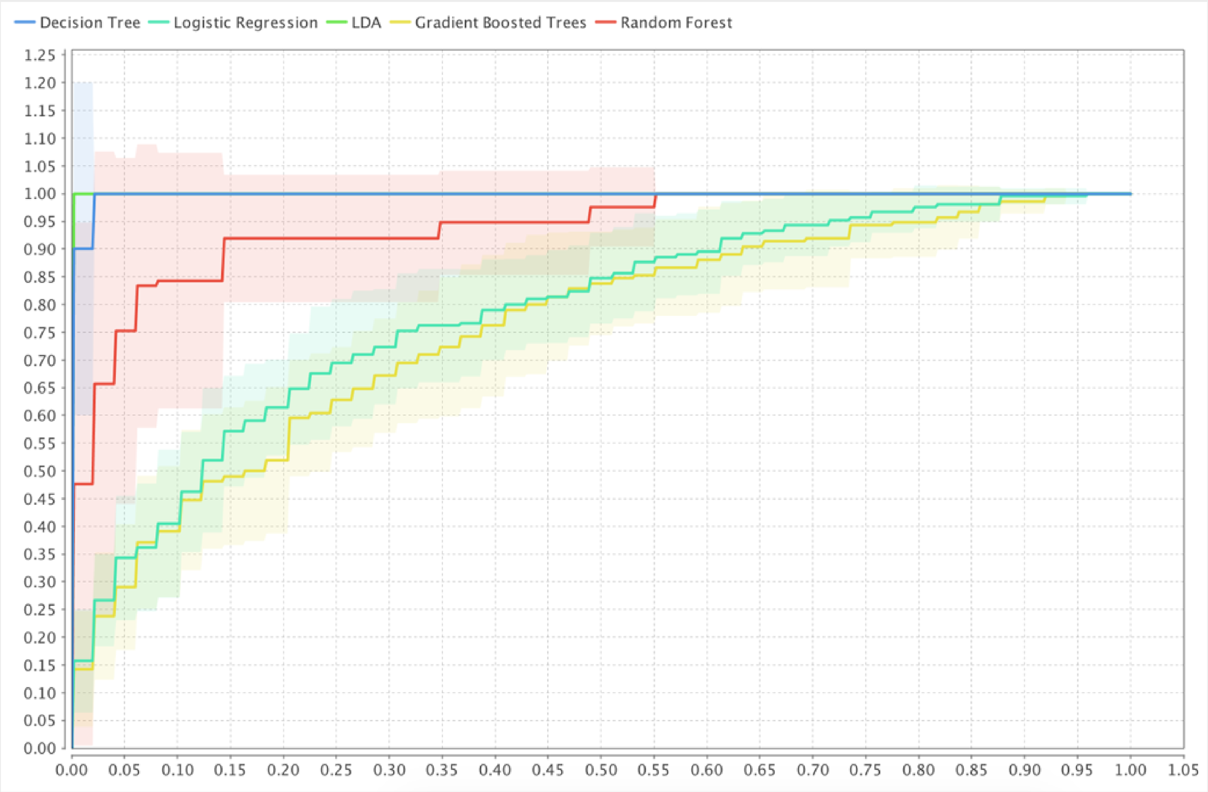
Data Description

- 31 attributes, 1000 data entries.
- Attributes including the duration of the credit account, employment status, relationship status, if the credit account has a co-applicant or guarantor, if the applicant owns real estate, and many more.
- Established the Response attribute as the label.
- Tried cleaning up the data, but it didn't change much.
- No missing or inconsistent data.
- If a 0 is predicted, that means the borrower has a bad credit rating. If a 1 is predicted, the borrower has a good credit rating.



Methods & Models Used

- Tried running the Decision Tree model
- Compare ROCs
- Linear Discriminant Analysis (LDA) was the best option
- Ran the LDA model using the Cross Validation operator
- Ran the LDA model manually



accuracy: 77.00%

	true 1	true 0	class precision
pred. 1	194	53	78.54%
pred. 0	16	37	69.81%
class recall	92.38%	41.11%	

Conclusion & Deployment

- While we only got to almost 77% accuracy overall, the model's accuracy for the predicted 1s column was 78.5%.
- With this dataset, the main goal is to predict the 1s column correctly because this is what determines that the bank will loan to a borrower.
- If the data is predicted as a 1, but was actually a 0, a good credit rating was predicted, but the borrower would default.
- The data that is predicted to be a 1 is the most important category.

- This model could be helpful for banks to figure out which accounts are likely to default and which ones are not.
- If banks are aware of which accounts are more likely
- to default, then they can take steps to prevent that.
- Those steps could be to be more stringent on who they will give credit accounts to in order to try to limit losses as much as possible.