Terry Stops: Predicting Consequences

Outline

- Summary
- Models Used
- Model Selected

Summary

A police officer can stop you for looking “suspicious”

The Terry v. Ohio set that precedent

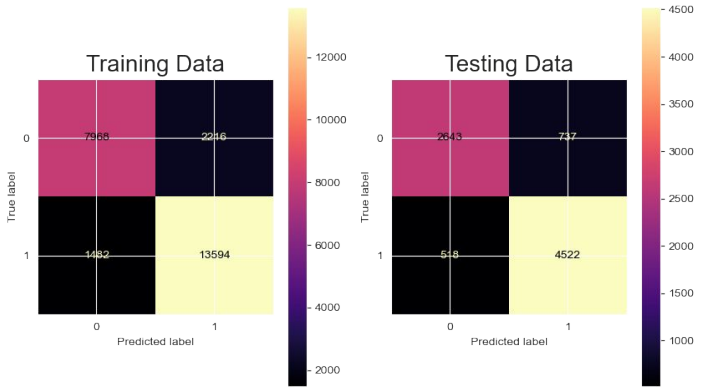
Can we predict arrests?

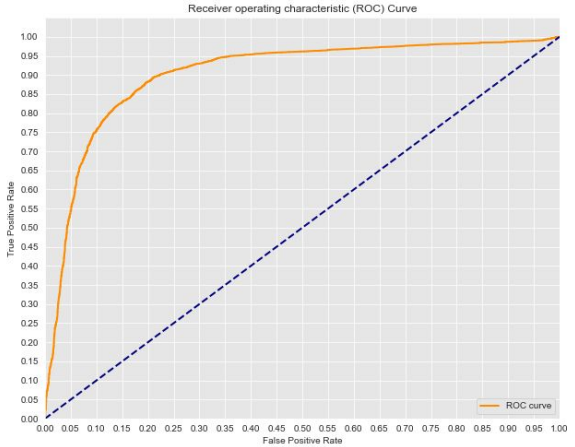
Using Chicago's data from Terry Stops, models were created to see if consequences were able to be predicted.

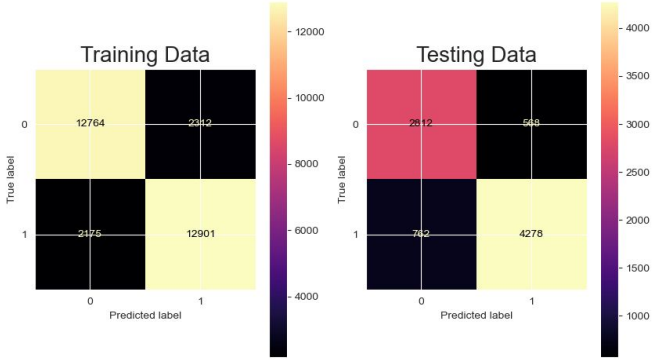
- Logistic regression
- K-Nearest Neighbors

Model 1
Base Logistic Regression

- F1 Score: .88/.87
- AUC .90

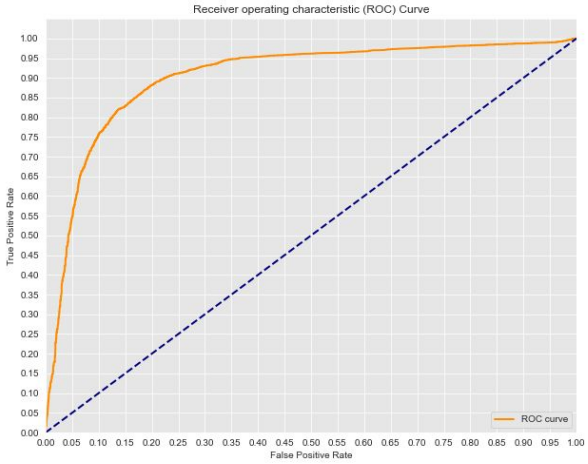


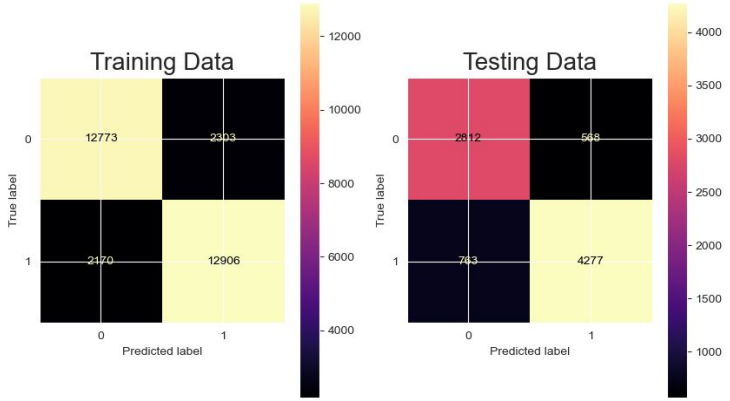




Model 2 - Logistic Regression with synthetic data

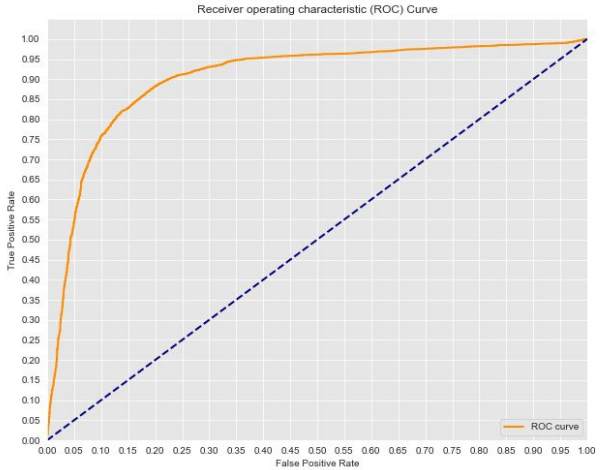
- F1 score: .85/.86
- AUC: .90





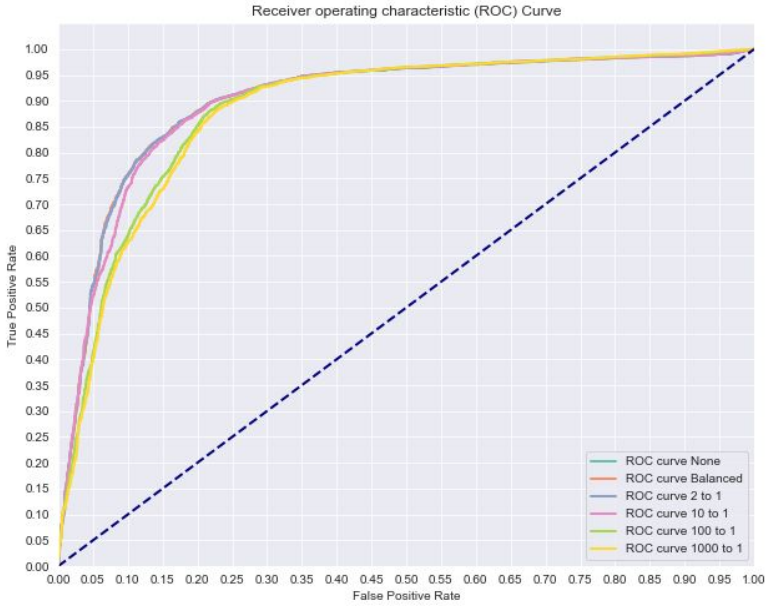
Model 3 - Logistic Regression with L1 penalty

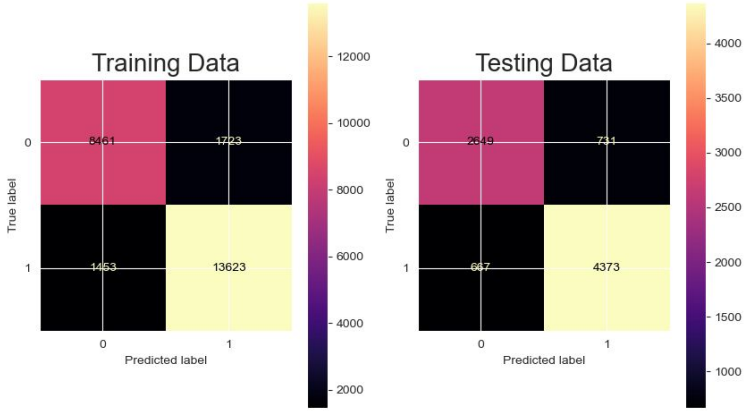
- F1 Score: .85/.86
- AUC score: .90



Model 4 - Logistic Regression C-values and Class weights

- F1 Score: .85/.86
- AUC: .90



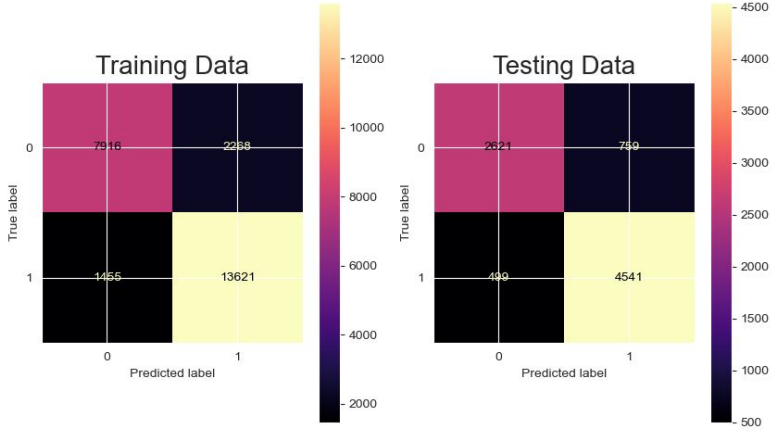


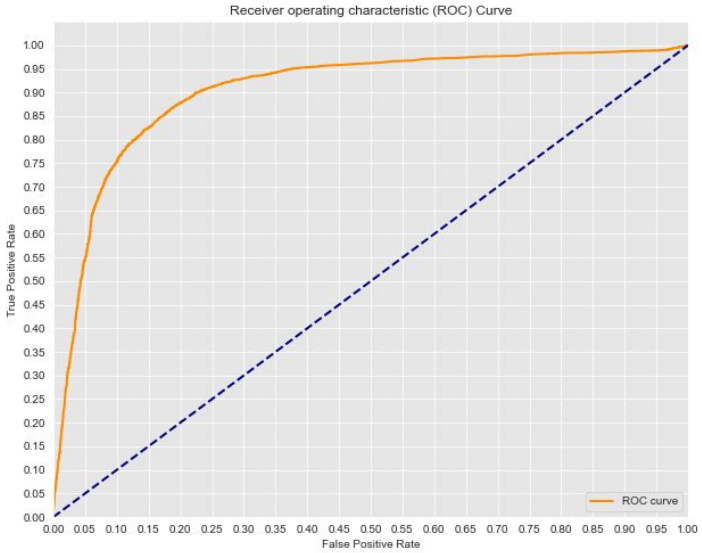
Model 5 - KNN baseline

- F1 Score: .89/.86

Model 6 - KNN with best K

- F1 Score: .87/.87

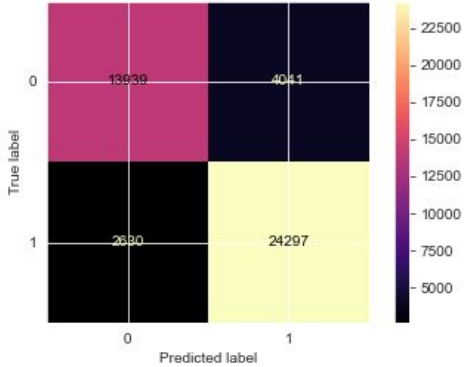




Selected Model:

Baseline Logistic Regression Model

Model 1 was the best performing model resource wise and based on evaluation metric.



THANKS!

Any questions?

You can find me at:

- Github: @edgarbarr1
- LinkedIn: www.linkedin.com/in/edgar-barr1/
- Email: edgarraul98@icloud.com