

Classifying Cardiac Arrest Outcomes

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WHY STUDY CARDIAC ARRESTS?

- Cardiac arrest deaths are often **preventable**
- How can FDNY improve cardiac arrest outcomes?

DATA

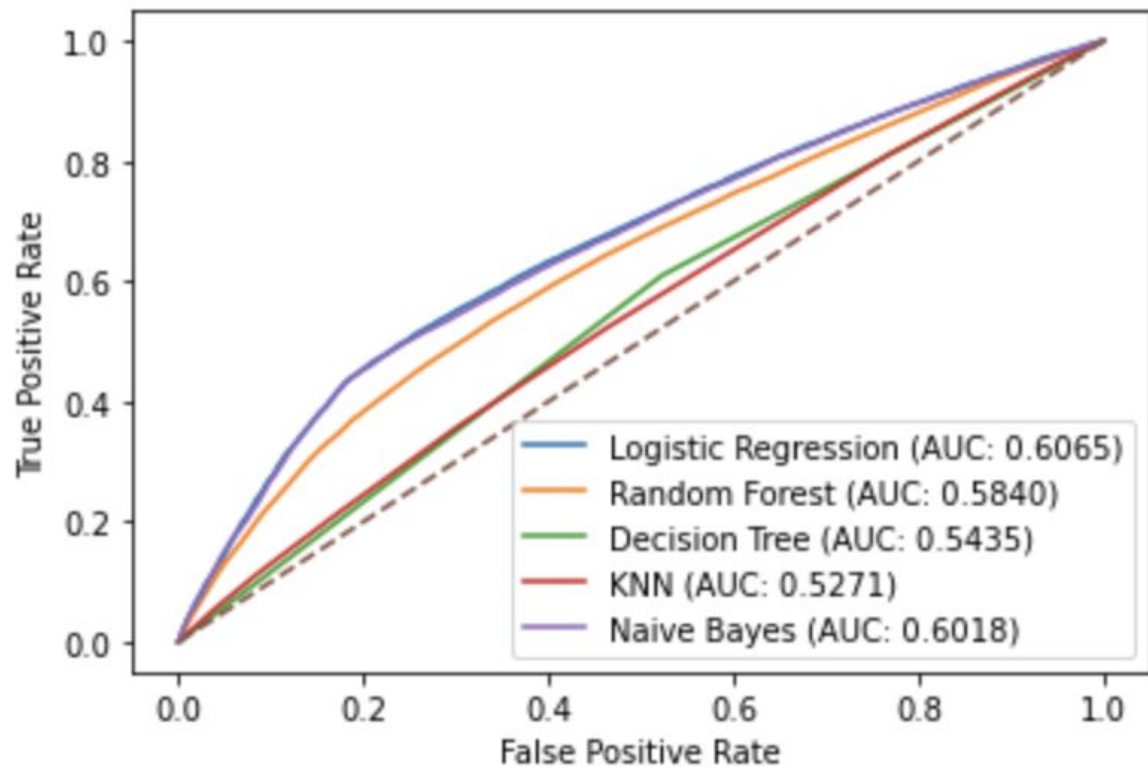
300,000

cardiac arrests in NYC
from 2011-2021

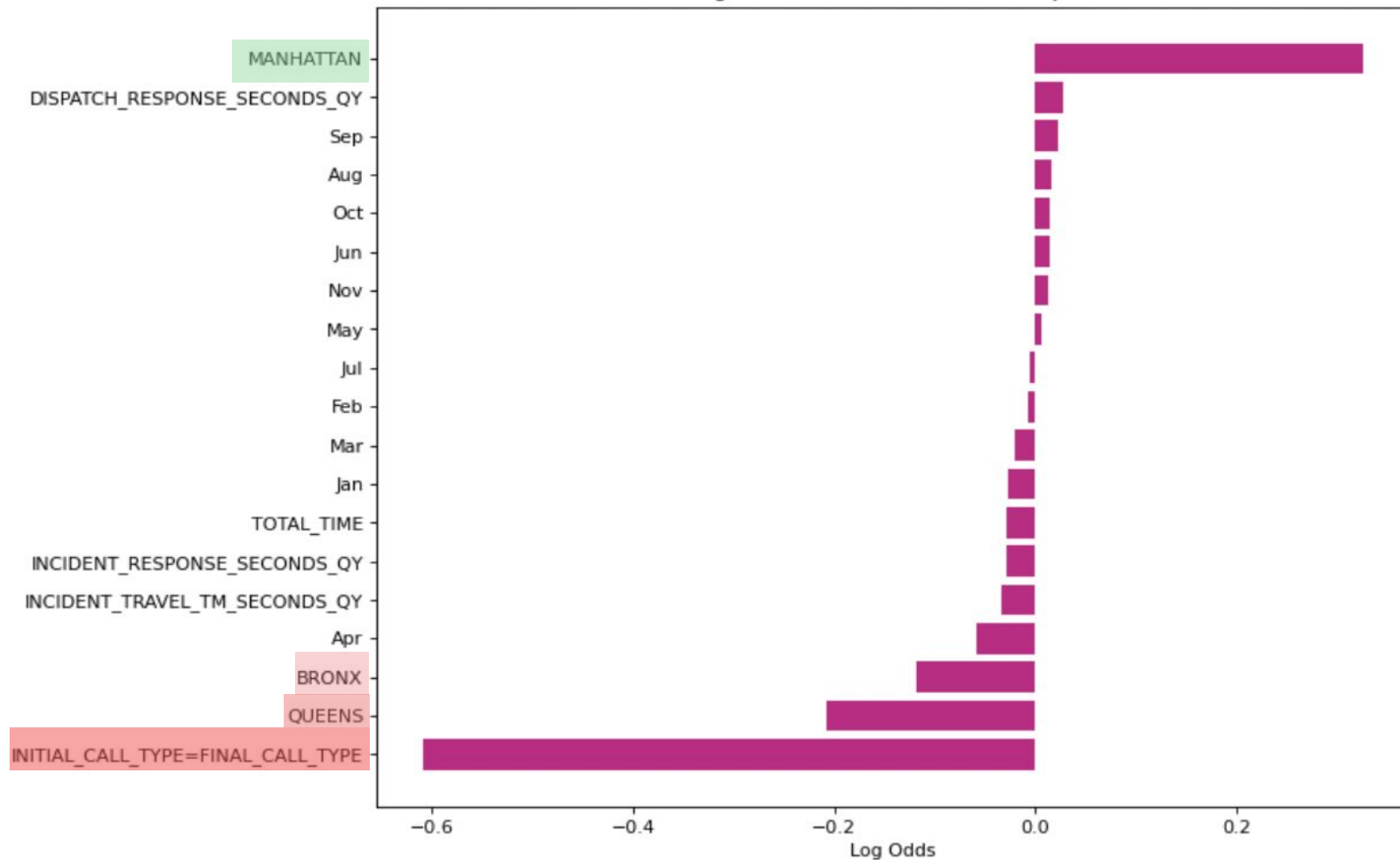
TARGET

Patient outcome:
death or transport

ROC Curve



Log Odds of Cardiac Arrest Transport



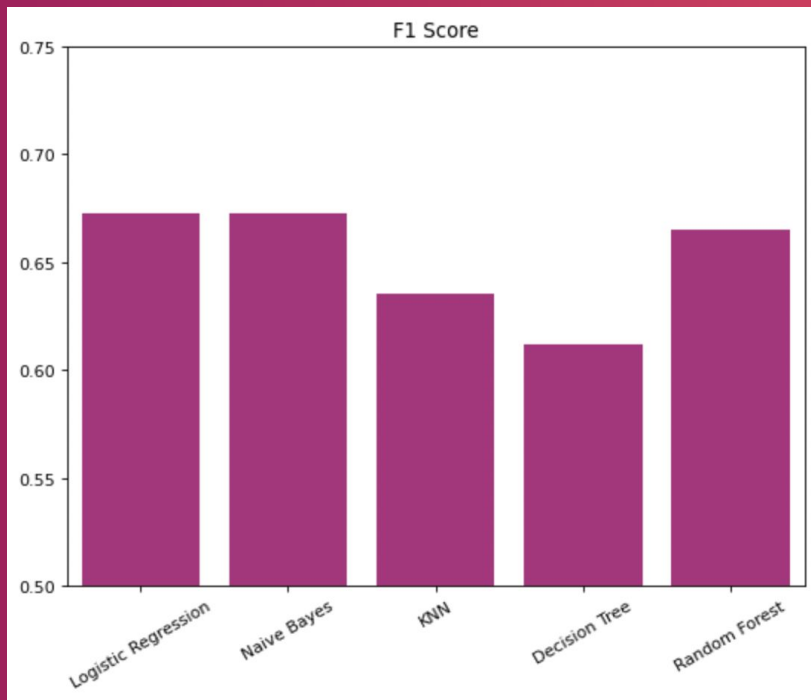
FUTURE WORK

- Include medical data
- Post-hospital outcomes



THANK YOU

APPENDIX



Test Metrics:

Logistic regression:

Accuracy: 0.6180

Precision: 0.6651

Recall: 0.6804

F1: 0.6727

ROC AUC: 0.6066

10 Nearest Neighbors:

Accuracy: 0.5492

Precision: 0.5957

Recall: 0.6808

F1: 0.6354

ROC AUC: 0.5253

Bernoulli Naive Bayes

Accuracy: 0.6148

Precision: 0.6597

Recall: 0.6865

F1: 0.6728

ROC AUC: 0.6018

Decision Tree:

Accuracy: 0.5538

Precision: 0.6140

Recall: 0.6106

F1: 0.6123

ROC AUC: 0.5435

Random Forest:

Accuracy: 0.6001

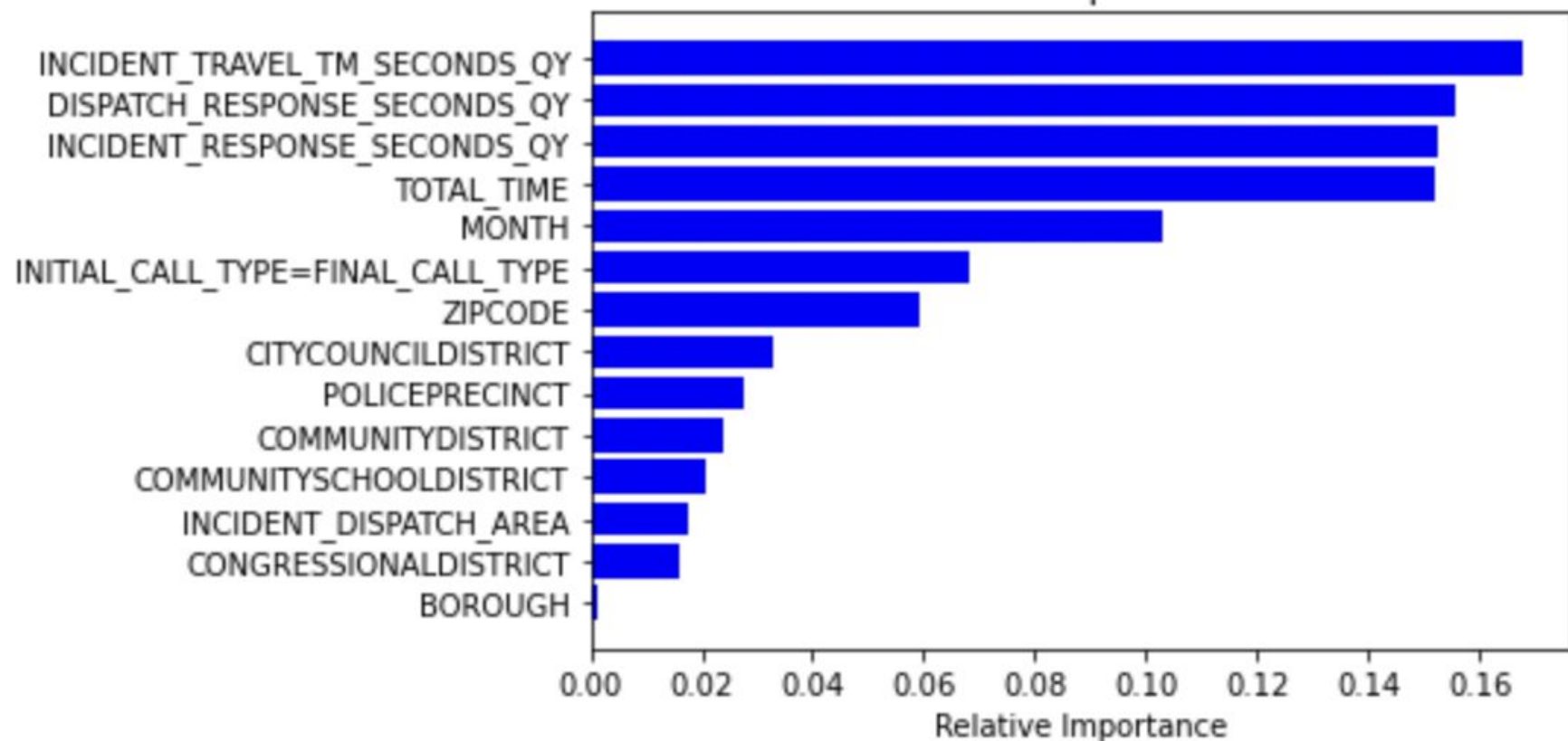
Precision: 0.6433

Recall: 0.6885

F1: 0.6652

ROC AUC: 0.5840

Feature Importances



RESULTS

- Borough
- Initial Call Type