Terry Stops

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TERRY STOPS – WHAT ARE THEY ?

Terry Stop   Terry Patdown   Arrest

Terry stops are allowed since 1968 ruling Terry v. Ohio

Based on "Articulable Reasonable Suspicion" (ARS) of potential past, present or future criminal conduct

Includes discussion and "minimally intrusive seizure"

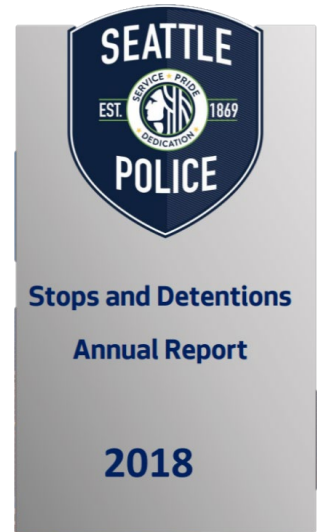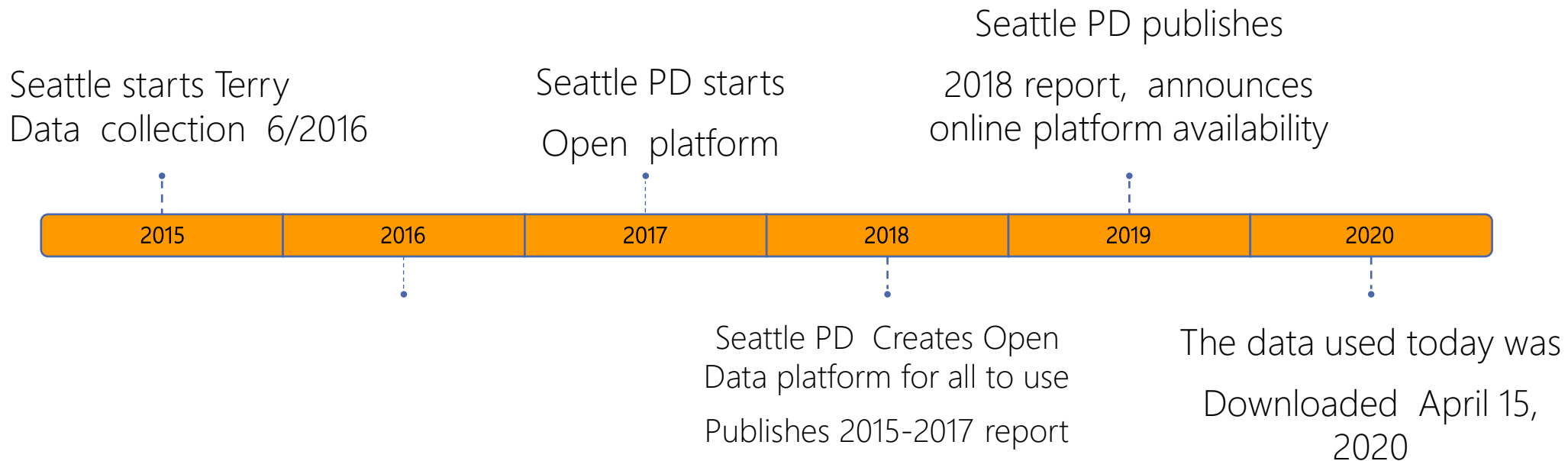Seizure under State And Federal Law

Reasonable belief of a concealed weapon

Applies to people & Vehicles
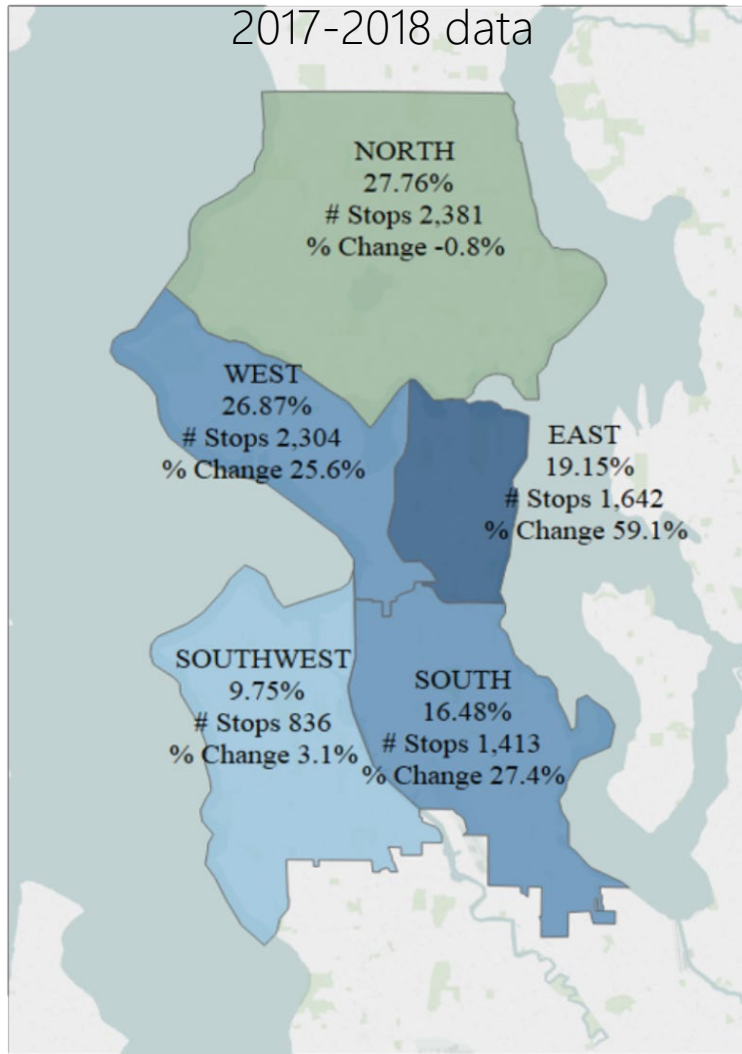
Subject is not free to leave

Business Objective: Improving Effectiveness of Terry Stops

- Since 2015, Seattle has been collecting Terry Stop Data, and since 2017 provided the data and dashboard online for public data analysis

- Roughly 41,000 Terry Stops were performed in this time period, 25% of which resulted in arrests or forward for prosecution

- Purpose of this report is to identify specific attributes that lead to more or fewer arrests

Seattle starts Terry
Data collection 6/2016

Seattle PD starts
Open platform

Seattle PD publishes
2018 report, announces
online platform availability

| 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |

Seattle PD Creates Open
Data platform for all to use
Publishes 2015-2017 report

The data used today was
Downloaded April 15, 2020

SEATTLE POLICE
EST. 1869

Stops and Detentions

Annual Report

2018

Dataset: https://www.kaggle.com/city-of-seattle/seattle-terry-stop

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Overview of the Seattle Dataset: 7/2015 – 4/2020

2017-2018 data

NORTH
27.76%
Stops 2,381
% Change -0.8%

WEST
26.87%
Stops 2,304
% Change 25.6%

EAST
19.15%
Stops 1,642
% Change 59.1%

SOUTHWEST
9.75%
Stops 836
% Change 3.1%

SOUTH
16.48%
Stops 1,413
% Change 27.4%

- ~41,000 unique terry stops (rows), with 25% resulting in arrest or forwarded for further prosecution
- Data Features:
  * Terry Stop ID
  * GO /SC ID
  * Officer ID
  * Subject ID
  * Report Date
  * Report time
  * Initial Call Type
  * Final Call Type
  * Call Type
  * Stop Resolution
  * Weapon type
  * Officer Squad
  * Officer Year of Birth
  * Perceived Age of subject
  * Race of officer
  * Perceived Race of subject
  * Gender of officer
  * Perceived Gender of subject

- Highlighted Features are those used in analysis

- Engineered Features
  * Day of the week
 * Monthly cadence
  * Precinct
  * Watch
  * Officer Age

Key Model Findings

Arrest Prediction Accuracy — 80%

Confusion Matrix
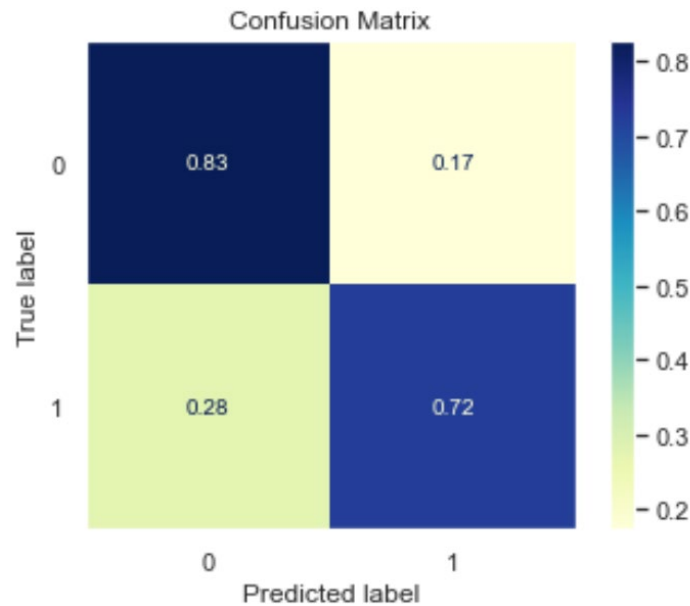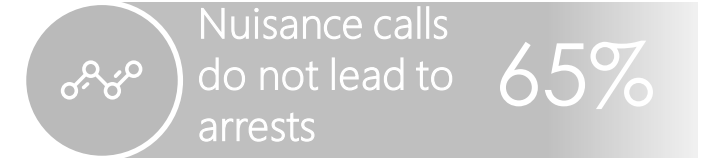
80% Accuracy
72% Arrest Prediction
83% Non-Arrest Prediction
AUC = 0.85

Final Call Type Is critical for Predicting Arrests — 35%

	Importance (Abs)
Final Call Re-map_unknown	16.99
Final Call Re-map_suspicious	9.17
Final Call Re-map_disturbance	7.05
Officer Age_26-35	4.11
Officer Age_36-45	3.93
Officer Age_46-55	3.36
Officer Age_18-25	3.10
Watch_Unknown	3.08
Final Call Re-map_trespass	2.81
Watch_3rd Watch	2.62

The officer Age and Subject Age
Also play a role in predicting arrests

Nuisance calls do not lead to arrests — 65%
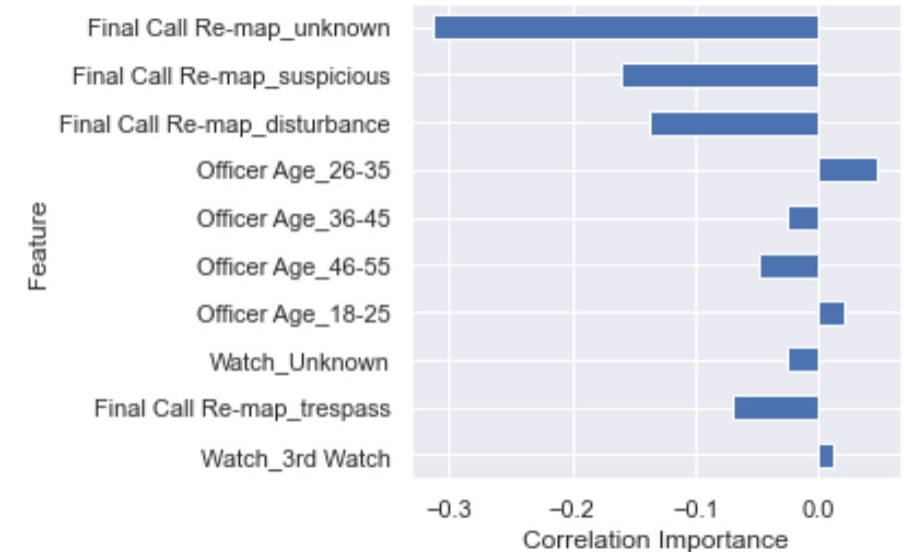
- Final Call type which are vague (suspicious) are negatively correlated to arrests

- Younger officers and subjects are positively correlated to arrests

- Watch 3 (7pm – 2 am) are positively correlated to arrests.
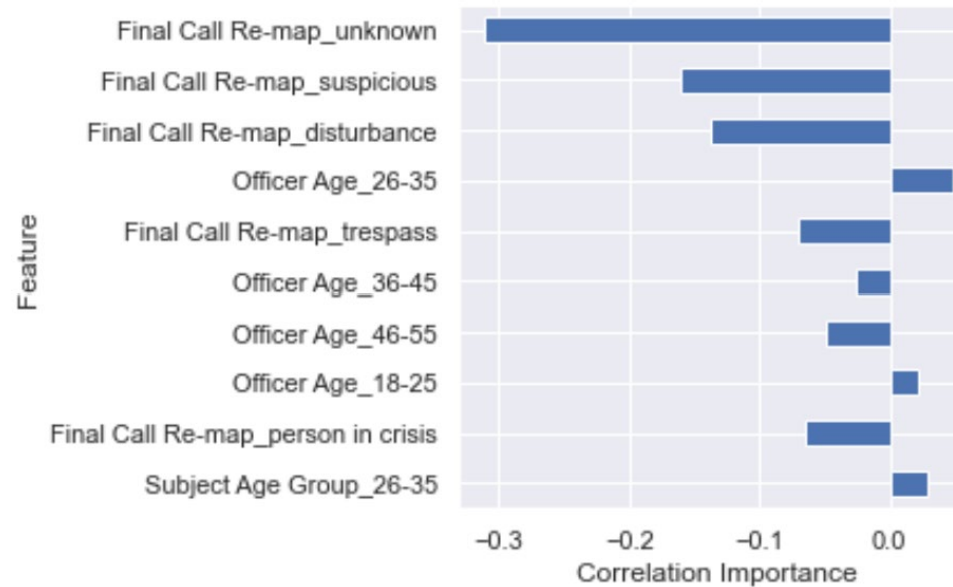
Summary

- A classification model was constructed with 80% arrest accuracy

- The most important features which predict Terry Stop arrests are the Final Call Type

- Officer age also plays a role: younger officers more likely to serve on 3rd shift due to lack of seniority

Recommendations

- Do not assume that 911 calls are likely to result in arrest

- Considering adding more workforce on 3rd shift to maximize arrest rates

- Consider remodelling as a time series model

THANK YOU

24Slides