

A decorative graphic on the left side of the slide consisting of two overlapping parallelograms. The front one is blue and the back one is a light green. They are positioned diagonally, with the blue one partially covering the green one.

Seattle Terry Stops

A Logistic Analysis by Ben Mauss



Data Sources

- Data.Seattle.gov
- Bayer & Black P.C., bayerandblack.com
- *Stanford Law Review*



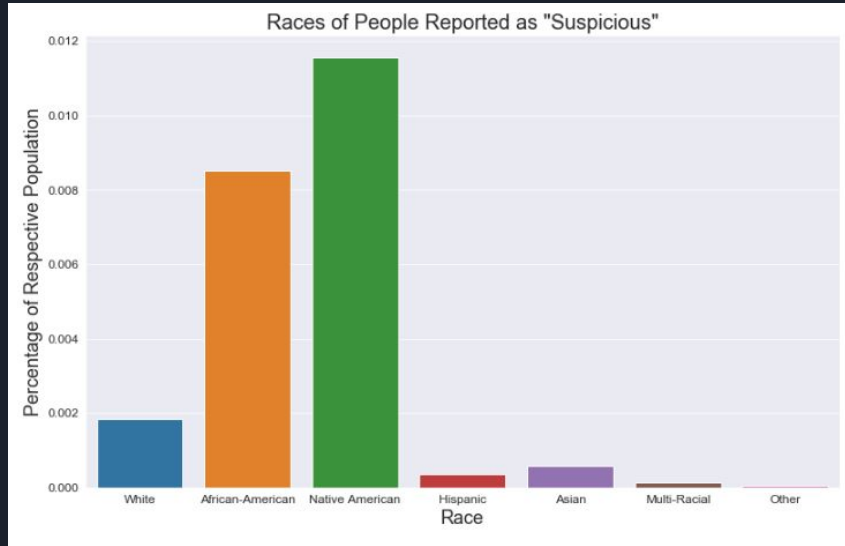
Information on the Dataset

This dataset included such information as:

- Stop Resolution
- Weapon type
- Officer and Subject IDs
- Officer and Subject Races
- Officer's Classification of the Call Type
- Arrest and frisk flags
- Basic Jurisdictional data

- **Offense Reports** means that an officer (whether through dispatch or being stopped on the street) collects a report from witnesses or from victims about a crime that has taken place. It can range from an officer collecting reports from people involved in a car accident to collecting suspect information from a murder.
- **Non-Custodial Arrest** means that a citation was given
- **Field Contacts** can range from anywhere from contacting community or gathering information on the area, and escalate to frisking.
- **Arrest.** Thanks to our relabeling in preprocessing, this simply means that a physical arrest took place.
- **Referred for Prosecution** appears to be yet another interesting category. While **Field Contacts** can result in frisking, it never **results** in a physical arrest. A **Referral for Prosecution** is a combination between receiving a citation but can also end in a physical arrest.

Is there a relationship between Terry Stops and a subject's race.



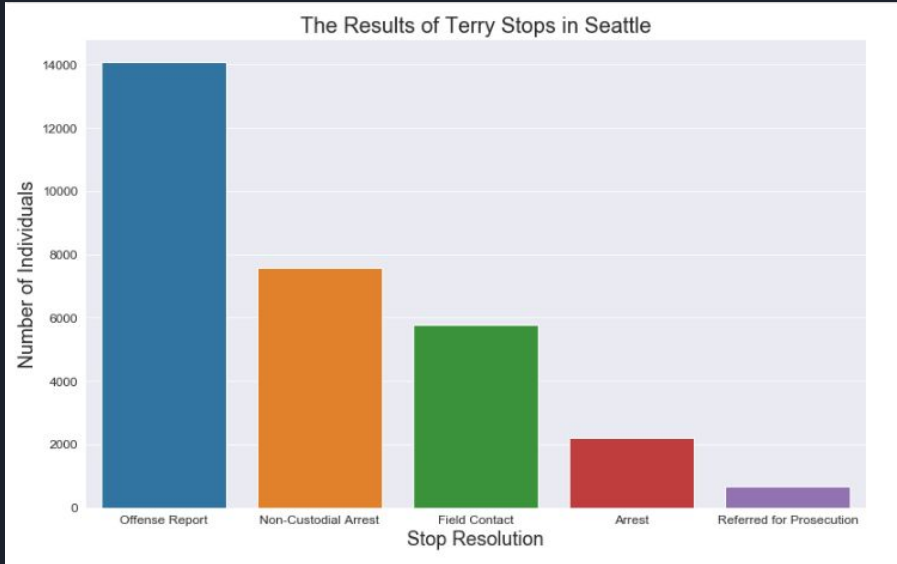
Yes, but it's difficult to determine the origin of the discrimination.

The dataset does not contain enough information to distinguish whether a stop was initiated by an officer or as a result of a report from a civilian.

Recommendation: Reinstate "Freedom Patrols".

Revise reporting methods to include information such as if the stop was the result of following up on a lead.

Most Common Types of Terry Stops



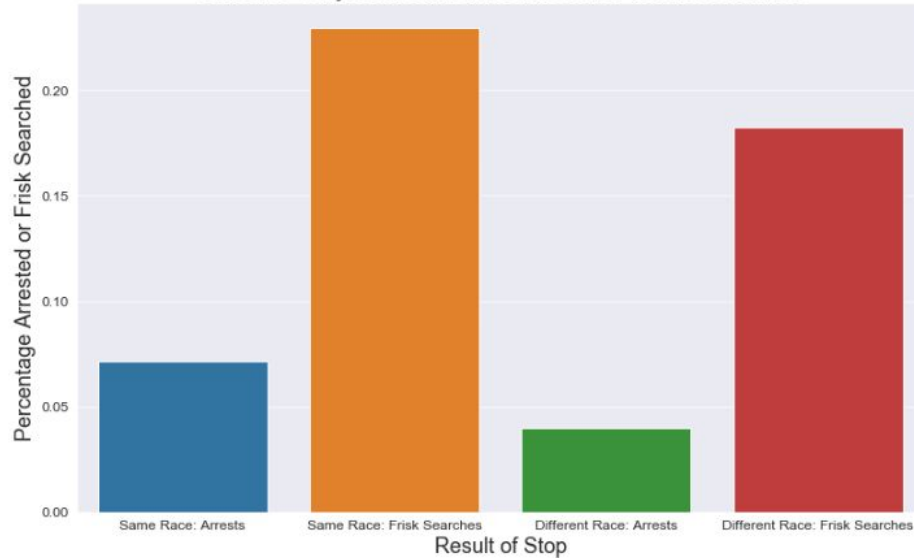
Most Terry Stops are obtaining Offense reports.

The definition of a “Terry Stop” is too broad and leads to many misinterpretations.

Recommendation: Revise categories and add subcategories where necessary to add greater clarity and context.

Are Subjects Treated Differently by Officers of a Different Race?

Officer & Subject Treatment: Same Race v. Different Race



Yes, but not the way you'd think!

Unclear as to why this is considering the demographics of the Seattle PD.

Unable to determine if this is result of racial tensions, or if officers are assigned to beats based on the area's demographics.

Recommendation: Disproportionate amount of people frisked to people arrested. Officers should show restraint in frisk searches.

Modeling

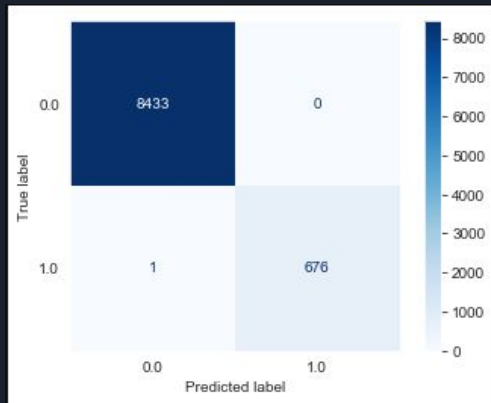
	stop_resolution	weapon_type	final_call_type	arrest_flag	frisk_flag
0	Offense Report	None	--DV - ARGUMENTS, DISTURBANCE (NO ARREST)	N	N
1	Offense Report	None	--DV - ARGUMENTS, DISTURBANCE (NO ARREST)	N	N
2	Non-Custodial Arrest	None	--THEFT - CAR PROWL	N	Y
3	Offense Report	None	--DV - ARGUMENTS, DISTURBANCE (NO ARREST)	N	N
4	Non-Custodial Arrest	None	--SUSPICIOUS CIRCUM. - SUSPICIOUS PERSON	N	N
...
30359	Arrest	Firearm	--ASSAULTS - HARASSMENT, THREATS	Y	Y
30360	Field Contact	Knife/Stabbing Instrument	--DISTURBANCE - FIGHT	N	Y
30361	Offense Report	Unknown	--CRISIS COMPLAINT - GENERAL	N	N
30362	Arrest	Unknown	--ASSAULTS, OTHER	Y	N
30363	Field Contact	Unknown	--SUSPICIOUS CIRCUM. - SUSPICIOUS VEHICLE	N	N

Dataset contained a lot of noise.

Noise caused by missing data, redundant categories, clerical errors, and unclear definitions.

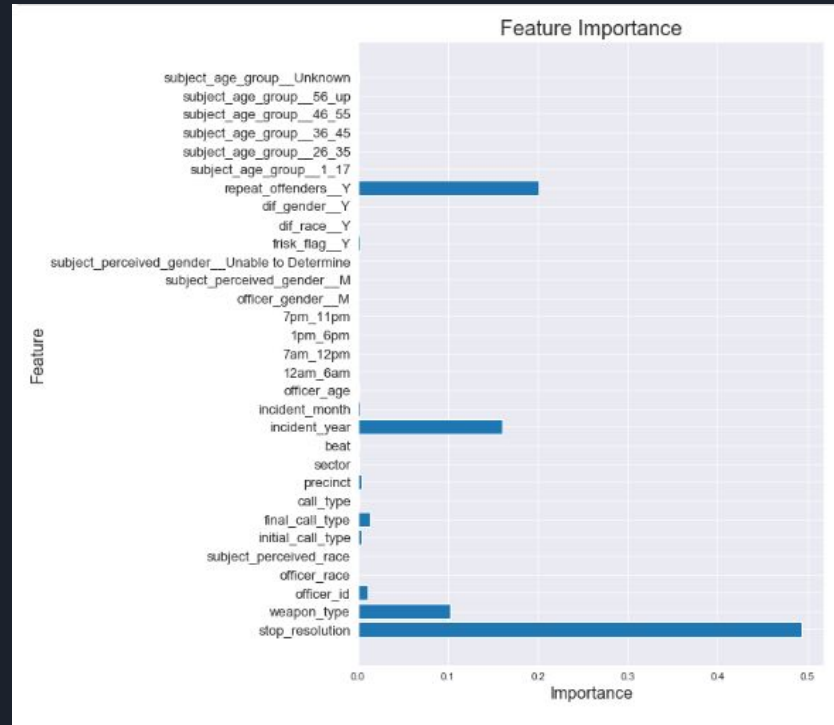
Added certain features such as racial differences, time of day, and added clarity to values where possible.

Random Forest Model



```
Training precision: 1.0
Test precision: 1.0
Training recall: 0.9993438320209974
Test recall: 0.9985228951255539
Training accuracy: 0.9999529500329349
Test accuracy: 0.9998902305159165
Training f1: 0.9996718083360683
Test f1: 0.999260901699926
{'RF__criterion': 'gini', 'RF__max_depth': 3, 'RF__min_samples_leaf': 1, 'RF__min_samples_split': 2}
```

With that, we've found our best combination of parameters! Look how tight those numbers are!





Summary & Suggested Future Work

- Reinstate Freedom Patrols where possible.
- Revise data collection methods to include more context to stops
- Audit record system and remove redundant categories to reduce noise.

Future Work:

- Collect income information on people who were arrested
- Investigate the number of people arrested and number of people found guilty in court.



Thank you!

Ben Mauss

ben.mauss@gmail.com