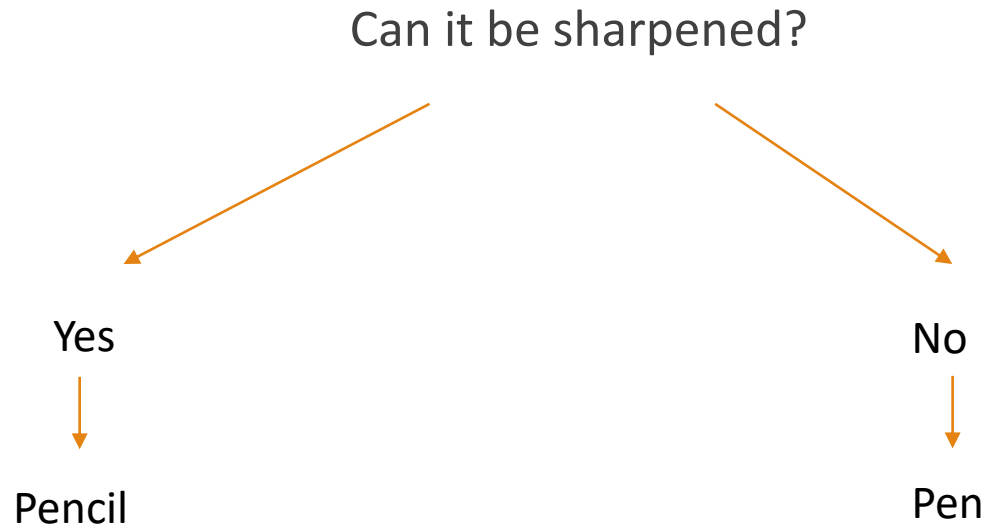# Variables Affecting Terry Stops
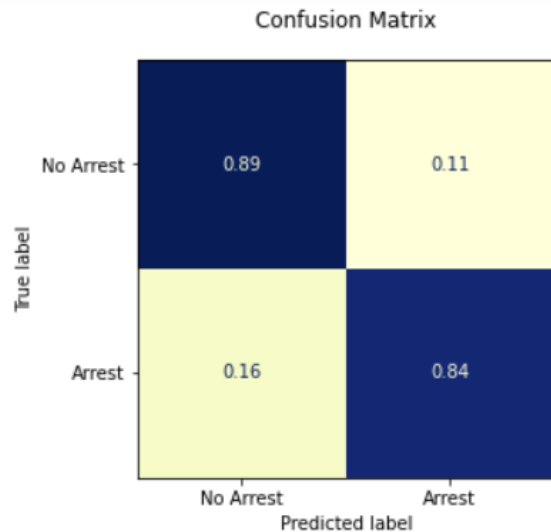
BY CHARLOTTE BASCH

Data

- Seattle police provide data on Terry Stops

- Variables include:
  - A, race, and gender of both the officer and subject of the stop
  - Time of the stop
  - Initial call type and method
  - Officer precinct (but not necessarily where the stop occurred)
  - Whether a frisk occurred

- 2015-2020

Decision Tree

Can it be sharpened?

Yes   No

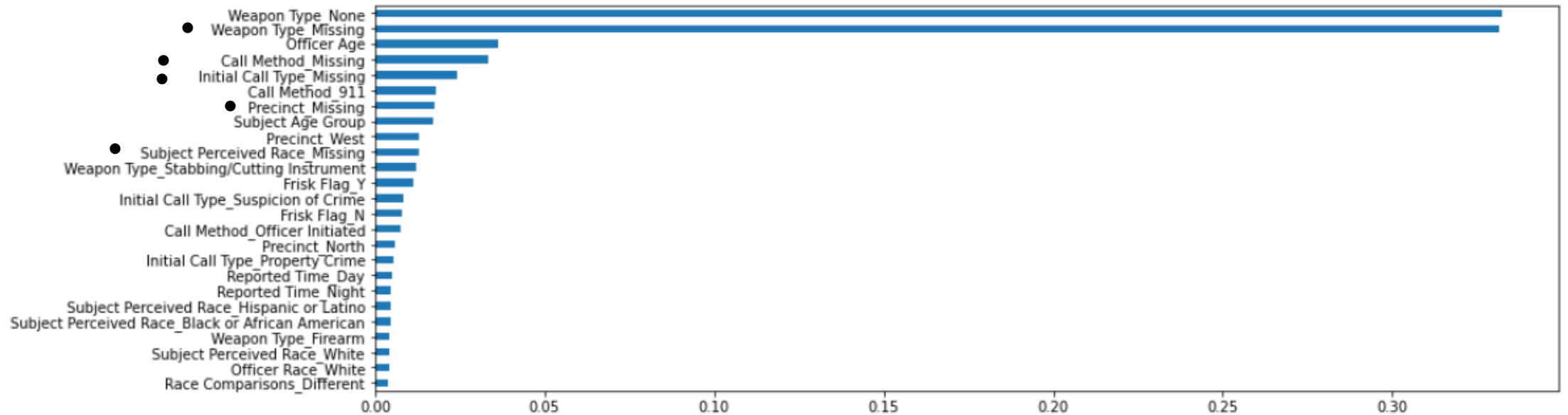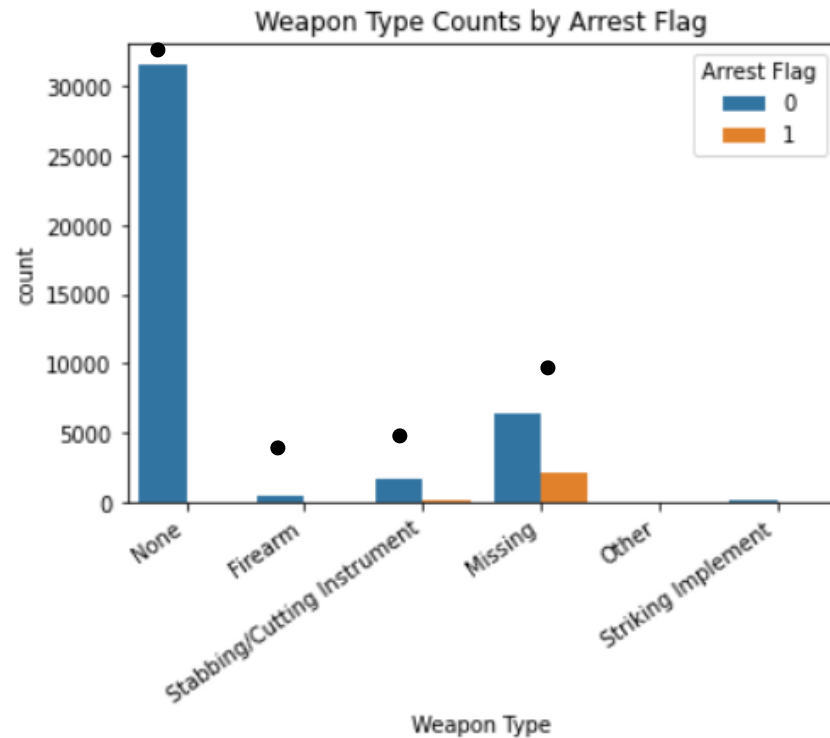Pencil   Pen

Random Forest

- Decision trees can keep going until it has used every element so it can be hard to apply to new data

- Much like working on a project together, multiple decision trees working together can make a model more accurate

- In this case we created a decision tree that was 88% accurate.

Confusion Matrix
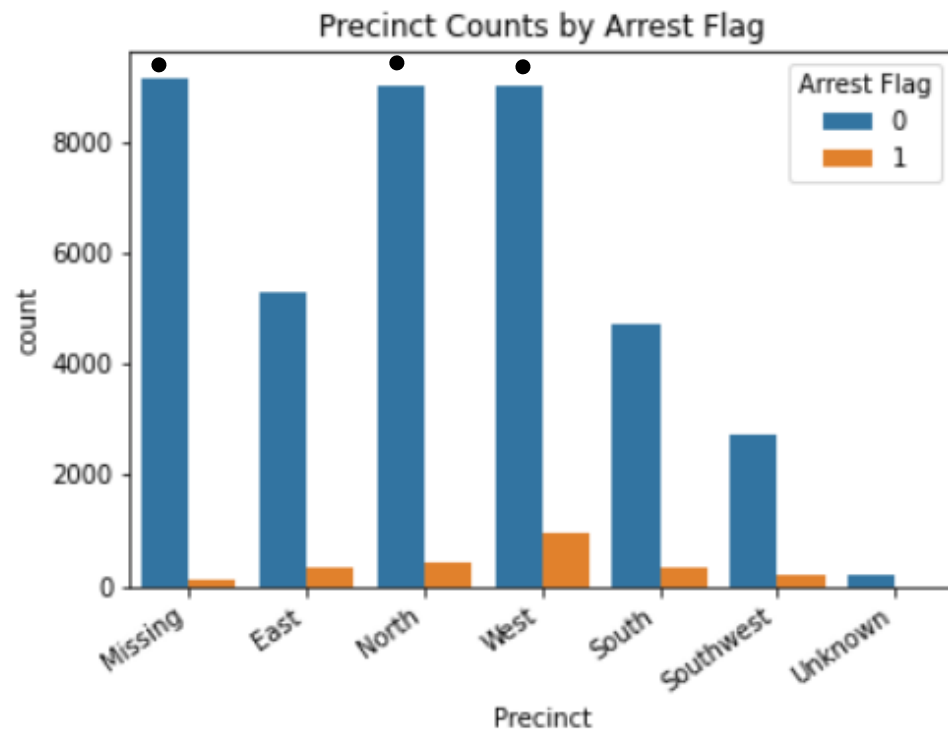
	No Arrest	Arrest
No Arrest	0.89	0.11
Arrest	0.16	0.84

True label / Predicted label

Feature Importance

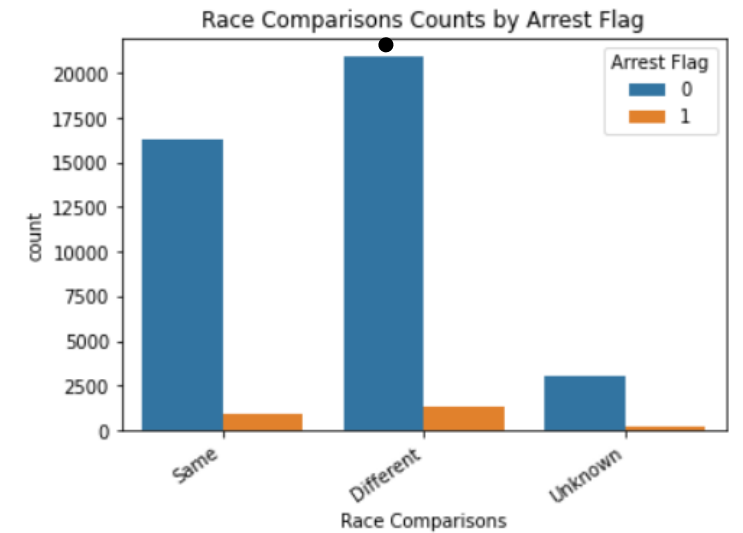# Weapon Type

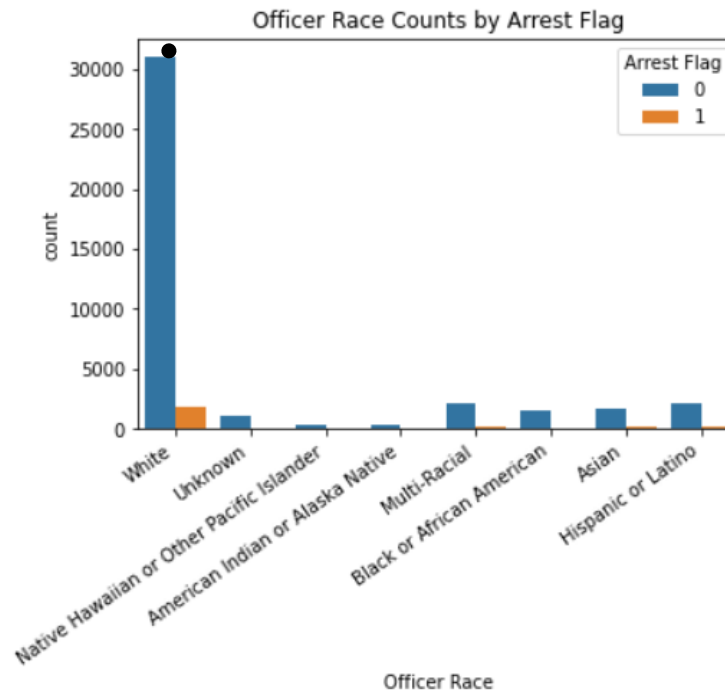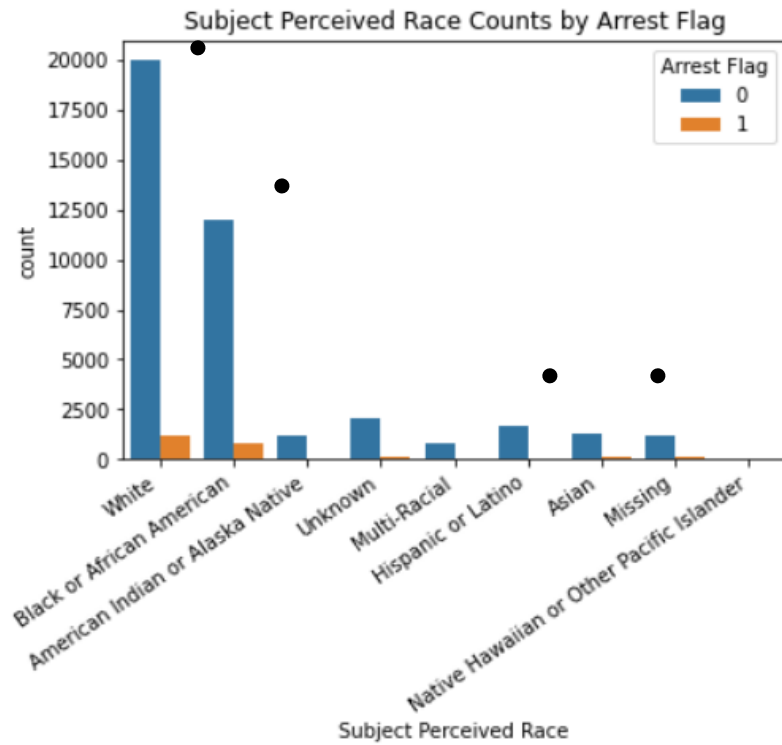Weapon Type Counts by Arrest Flag

- Having no weapon was associated with few arrests as would be expected
- Have a firearm or stabbing weapon were actually associated with lower arrest rates
- Missing data plays an important role
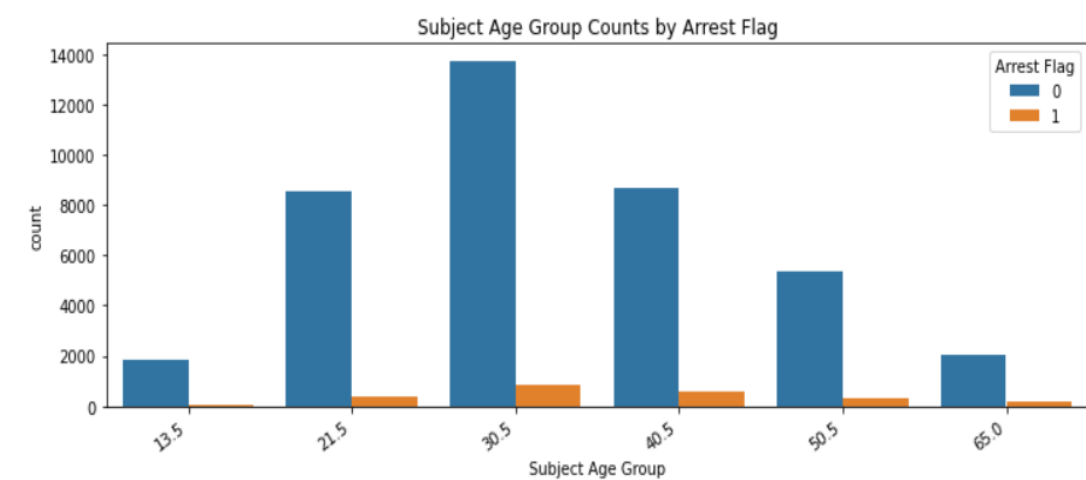
Precinct

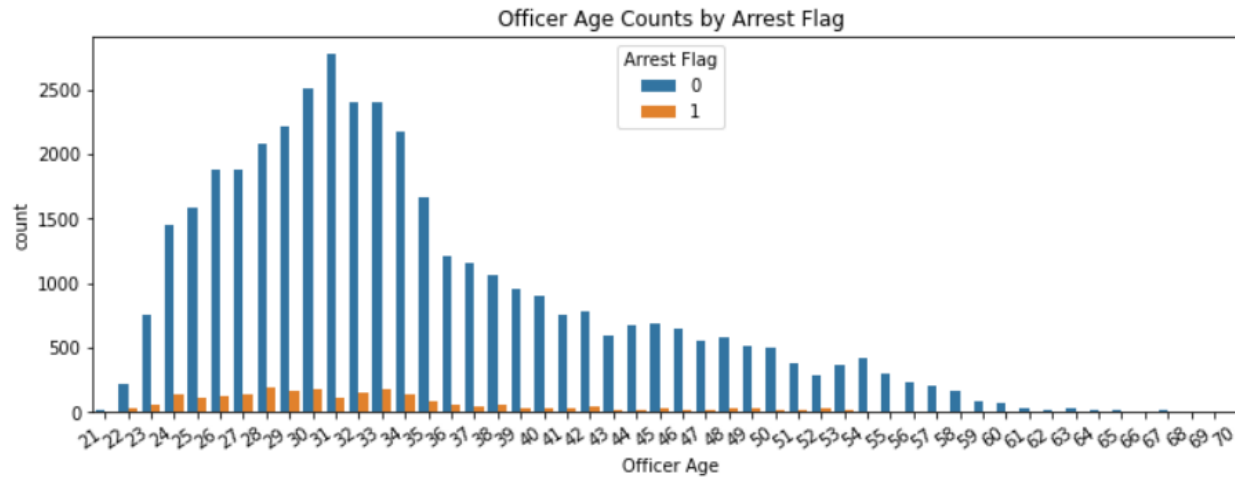
Precinct Counts by Arrest Flag

- Once again missing data is important
- West Precinct had a higher proportion of arrests while the North Precinct had lower rates.
- However they all have high rates of stops.

Race

Age

- More stops and arrests occurred for younger officers and subjects
- May be a function of the job responsibilities of younger officers

Future Work

- Investigate why so much data is missing

- Look into why different precincts have different stop rates when precinct and stop location are not necessarily related

- Look into officer age

- Collect data about stop location

Summary

- Data collection should become more stringent and the reasons for missing data should be investigated

- Officers should be more race conscious concerning their stops

- The discrepancies in precinct and officer/subject age should be studied further

Thank you!