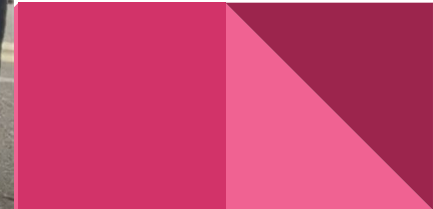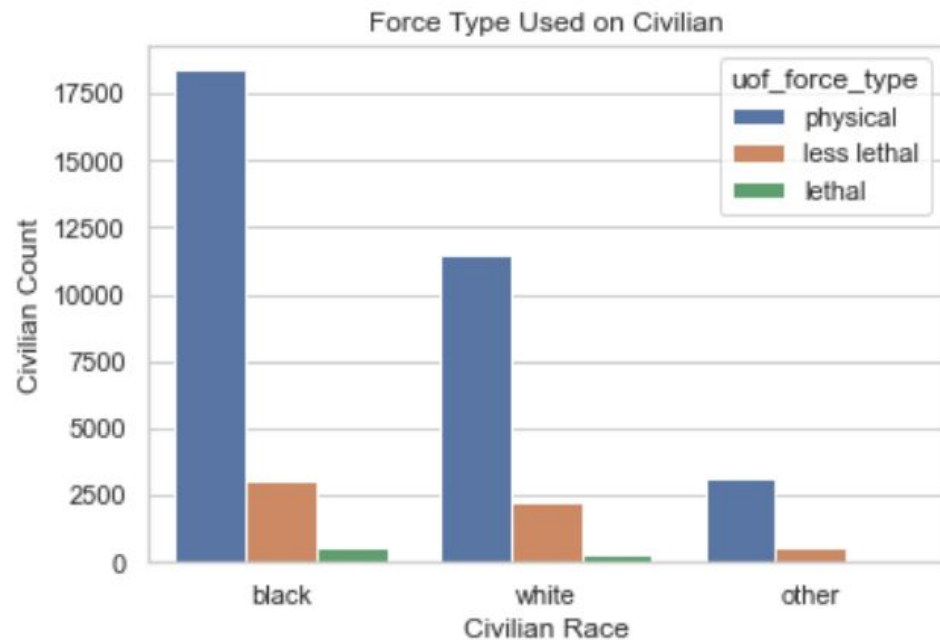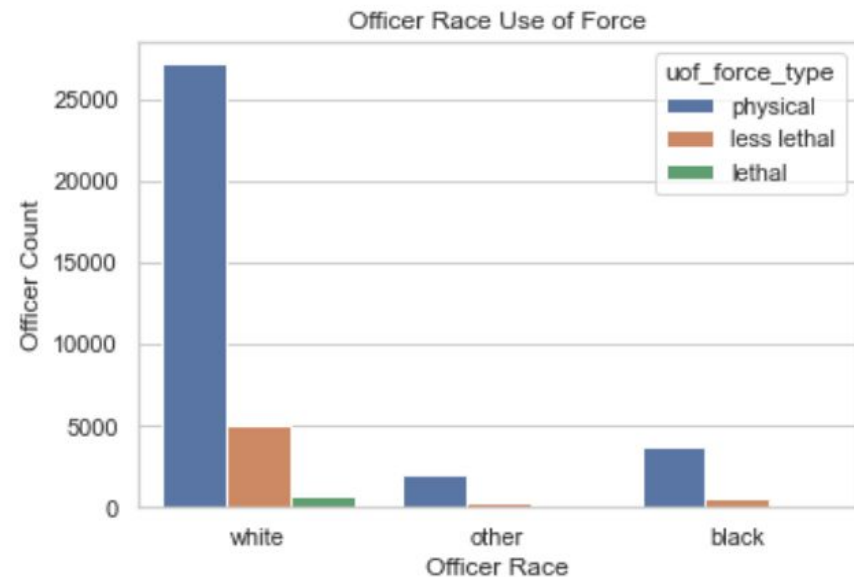# Use of Force by the IMPD

By Paul V. Narducci

What is Use of Force?

- Use of Force by the IMPD is categorized into three subcategories:
  - Physical
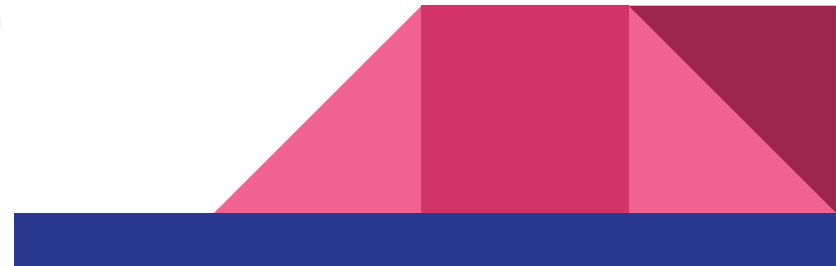 - Less lethal
  - Lethal

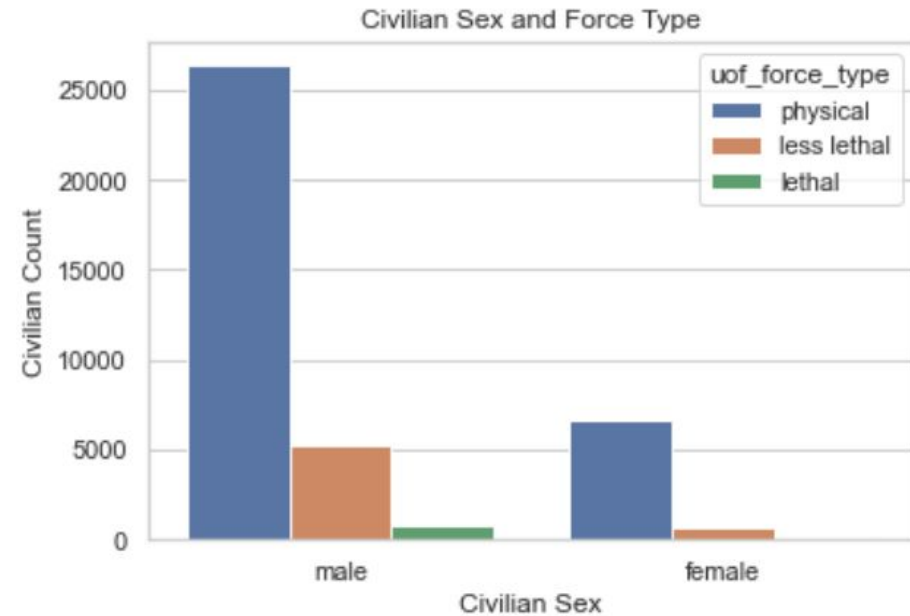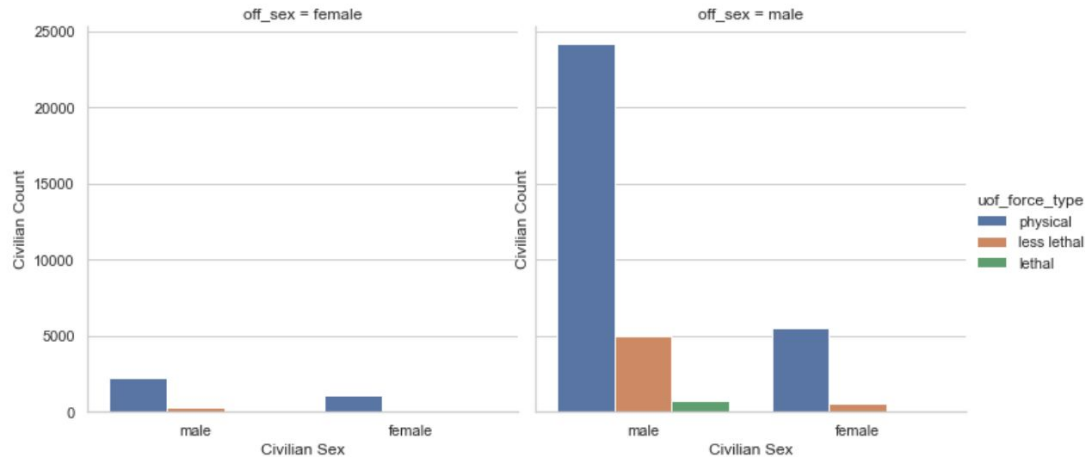# Why does understanding UOF matter?

- White cops are much more likely to perform acts of use of force on black civilians

Officer Race Use of Force

Force Type Used on Civilian

● Male cops are much more likely to use force on male civilians than their female counterparts

Civilian Sex and Force Type

Model Exploration

- A tuned XGBoosted model was able to accurately predict 93% of the data

Tuned XGBoost Confusion Matrix

```
uof_force_type
physical        8021
less lethal     1467
lethal           185
```
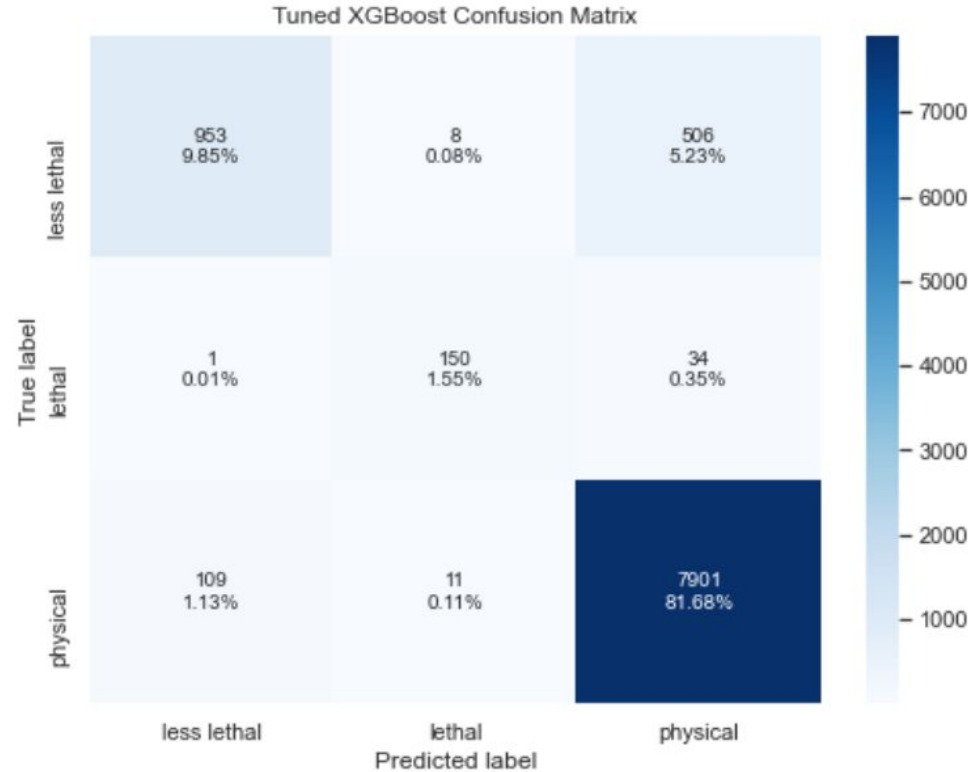
uof_reason_felony stop/apprehension
cit_cond_type_canine bite
service_type_swat incident
uo_designation_administration division training bureau recruiting unit
uo_designation_operations division park rangers ranger section unit (evening)
sex_male
uof_reason_resisting arrest
uo_designation_other assignments temporary manpower pool administrative discretion
service_type_other
uo_designation_other assignments temporary manpower pool military leave
uo_designation_criminal investigation division homicide and robbery robbery/agg assault section unit (middle)
uo_designation_operations division downtown district neighborhood impact vice/narcotics
uo_designation_operations division southwest district sw late tactical shift
uo_designation_operations division southeast district se day tactical shift
citcharge_type_drug possesion and use
disposition_other
cit_cond_type_other
uo_designation_administration division training bureau recruit section 10th class
off_injured
off_yr_employ
uof_reason_fleeing
occurred_month_other
uo_designation_homeland security division bureau/tactical canine section unit - day tactical
uo_designation_operations division downtown district dt late tact foot and bicycle
uo_designation_homeland security division bureau/tactical swat section unit
uo_designation_operations division southeast district se day shift 2nd rc
cit_hospital
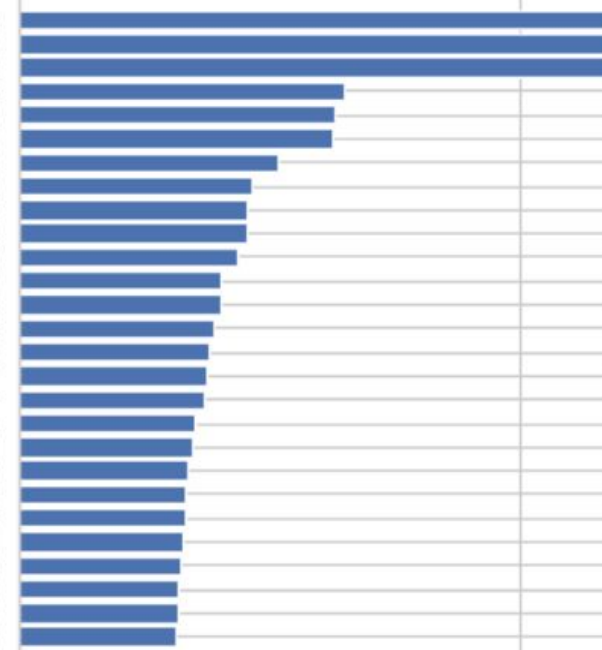
Looking Ahead

- Exploring the large amount of canine attacks by the IMPD
- Why did felony stops weigh so heavily on this model?
- Why does the training and recruiting designation of the IMPD have such a large impact on the model?

Thank You for Attending