

Crime and Community Investment in Philadelphia

Team: Gritty Philly

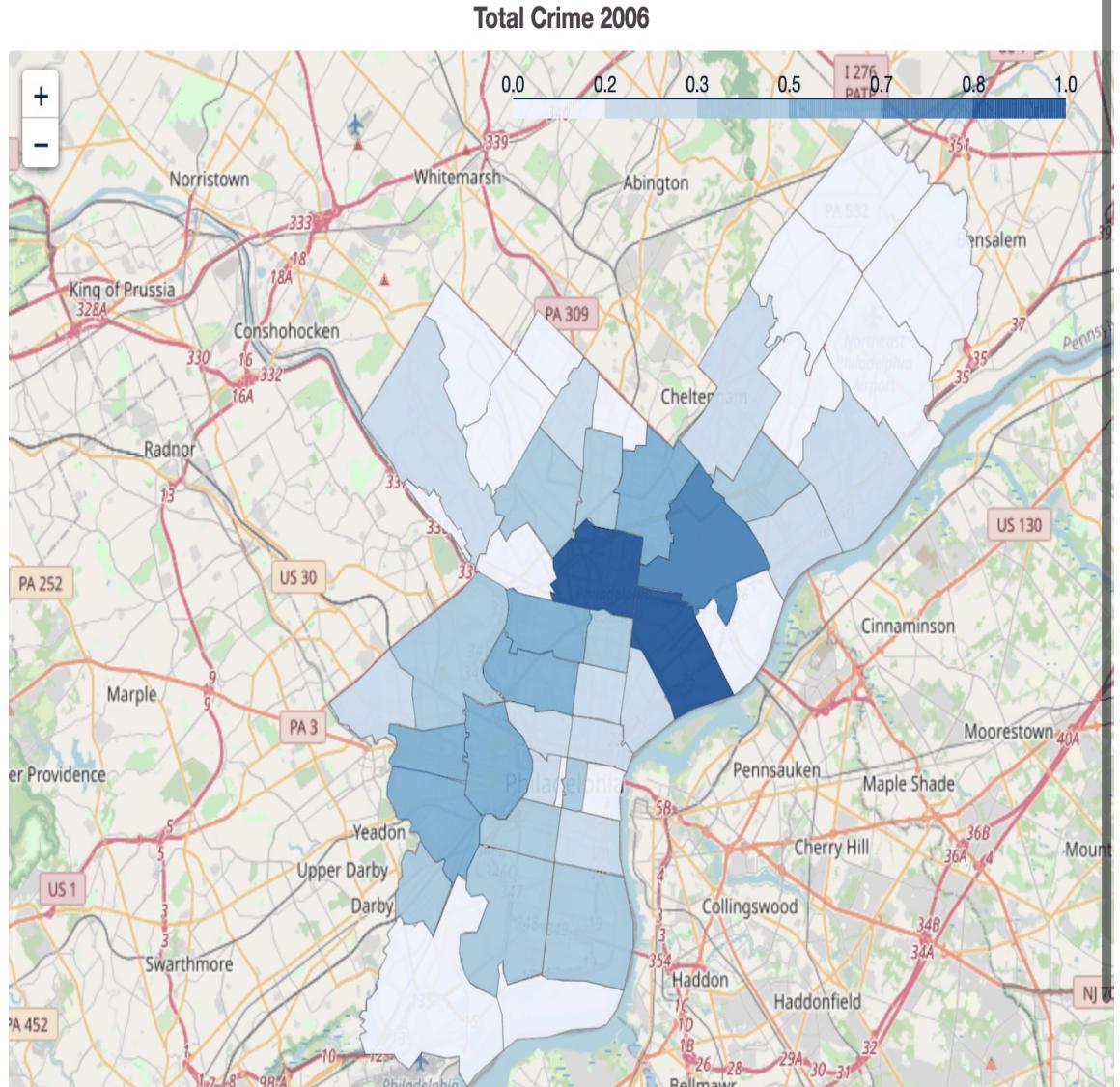
Erdős Institute Fall Boot Camp
2020

[Github](#)



The Project Idea

- People have tried to forecast crime in the past using metrics like unemployment, location, education level, average salary, ect
- Instead of looking at what can best predict crime I wanted to look at what might prevent it.



My Approach



Wanted to quantify a level of community investment in each zip code

Grabbed over 15 open data sets from opendataphilly,



Created a mega 'community programs' dataset that was grouped by zipcode and time

Parks, playgrounds, farmers markets, murals, schools, ect....



Used LASSO regression to identify important variables in crime prediction

Focused exclusively on community programs

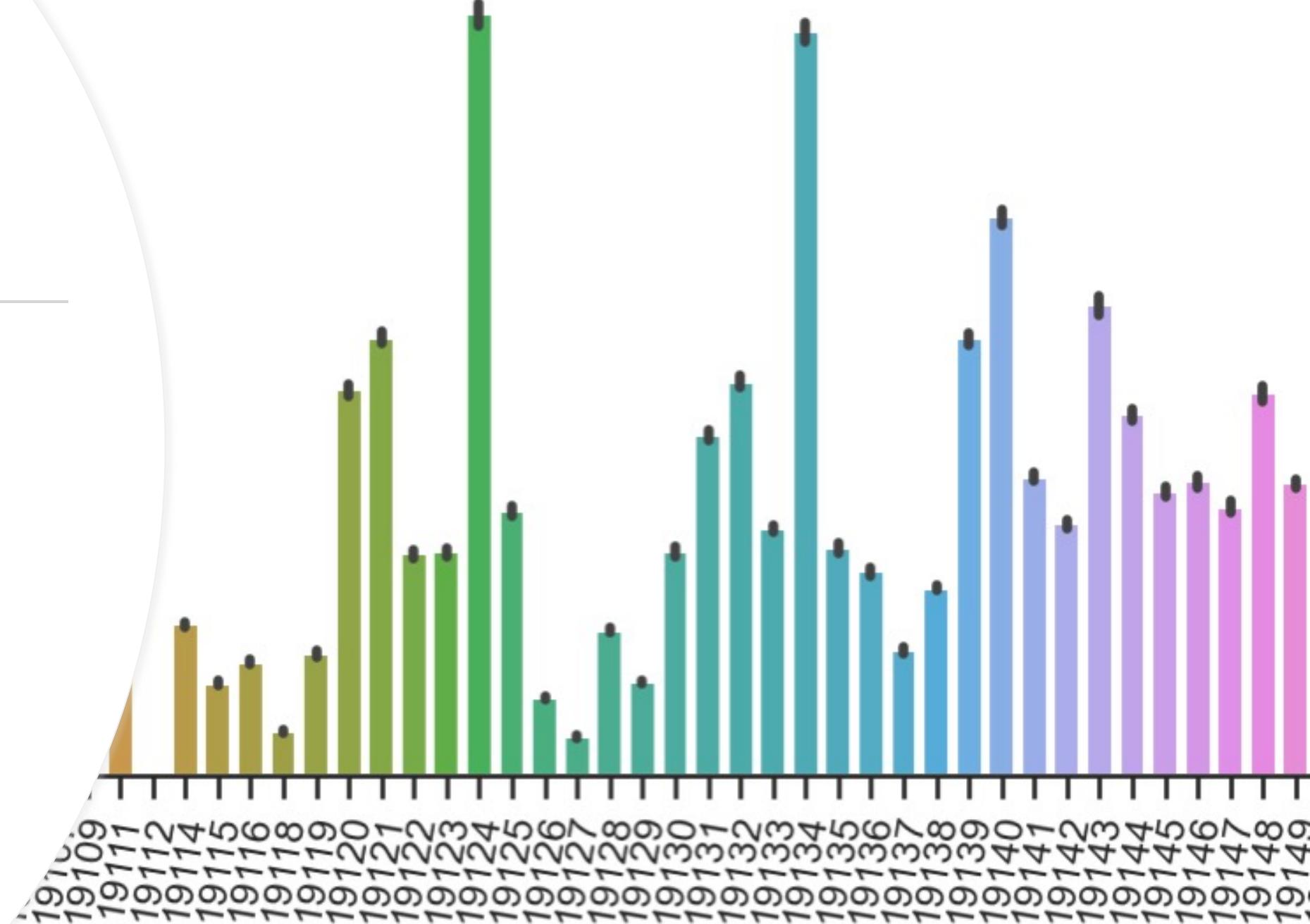


Analyzed both geospatially and as a function of time

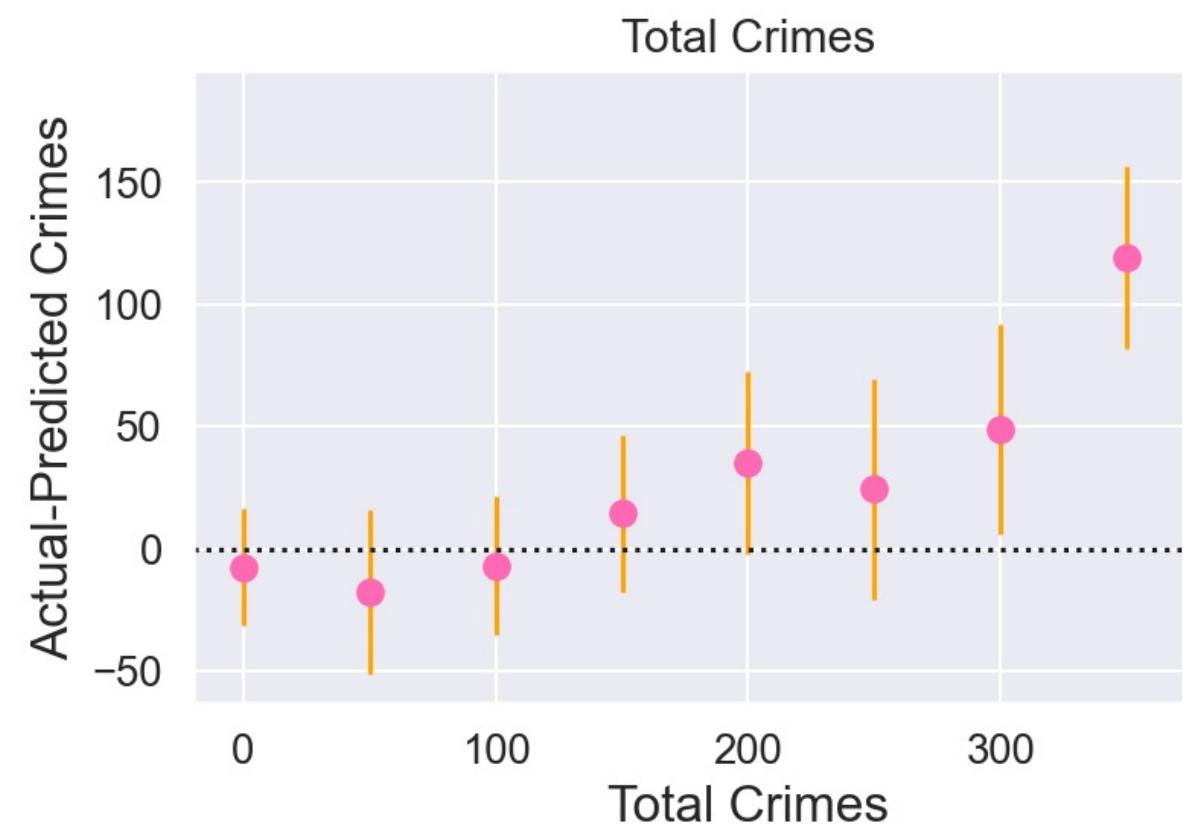
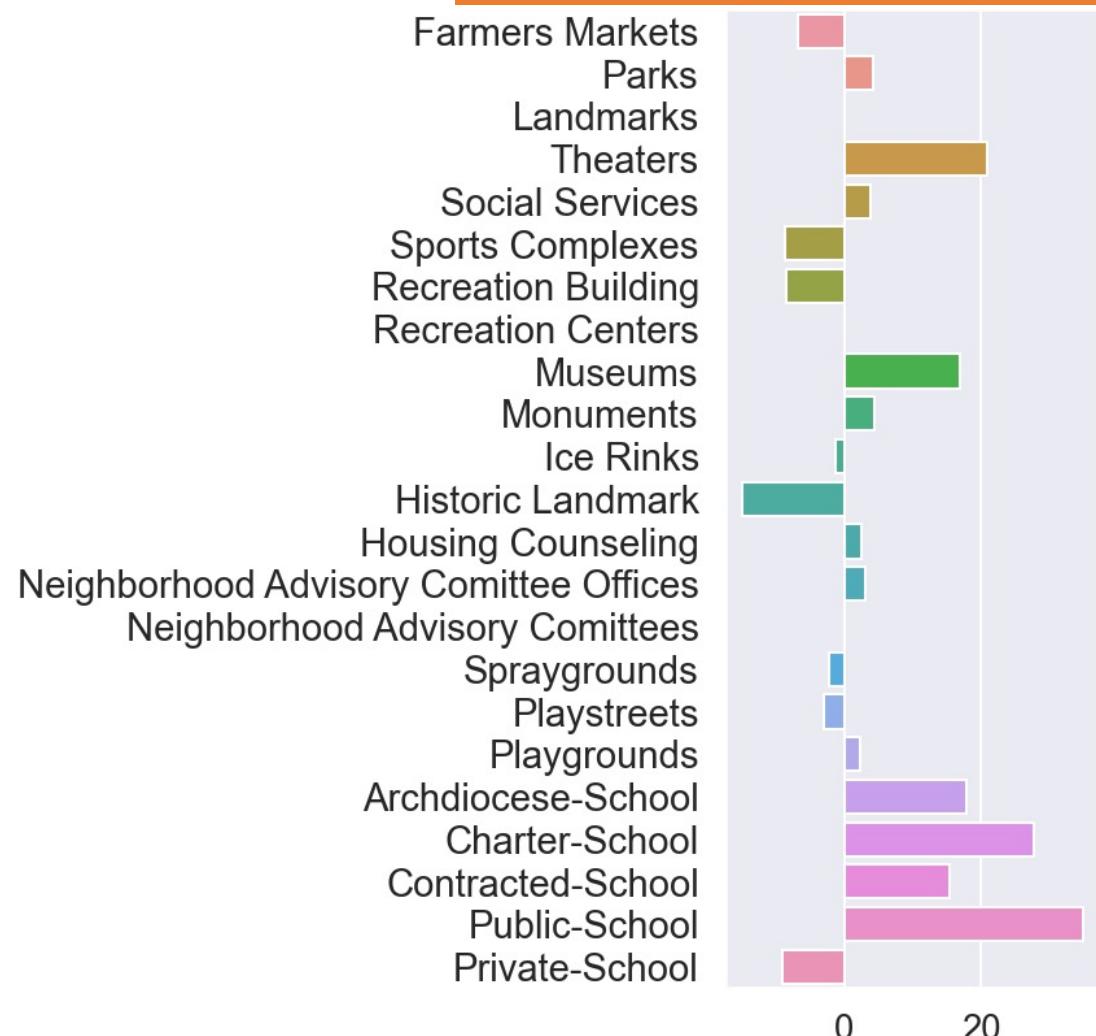
Used prophet to see how COVID affected crime immediately after lockdown



Methods and Packages Used

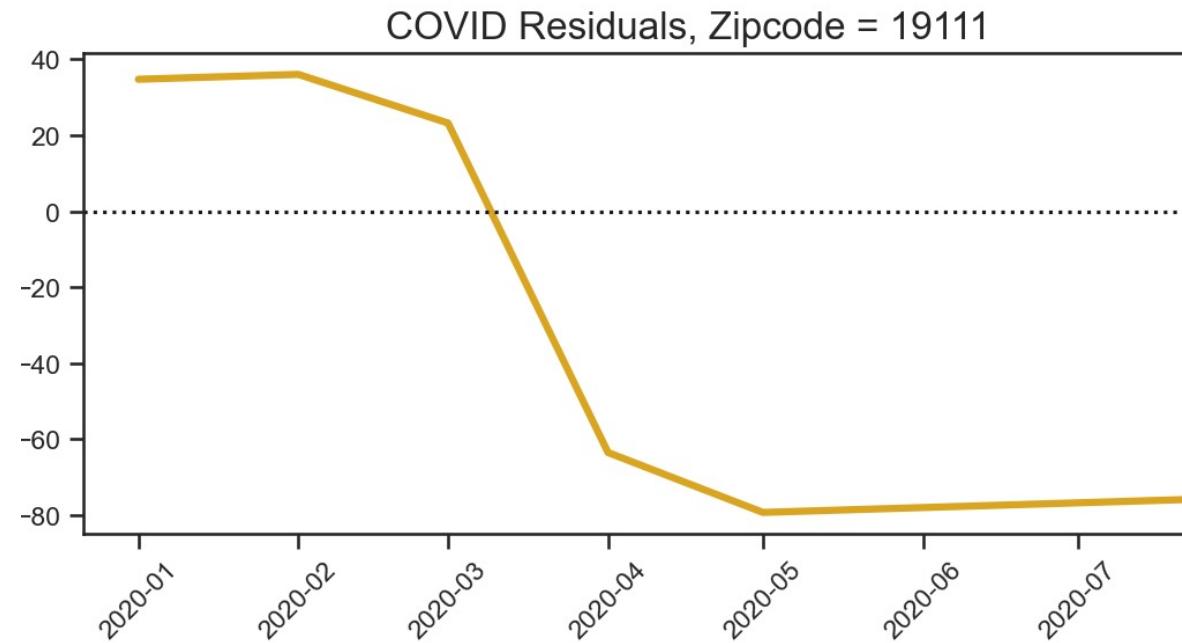
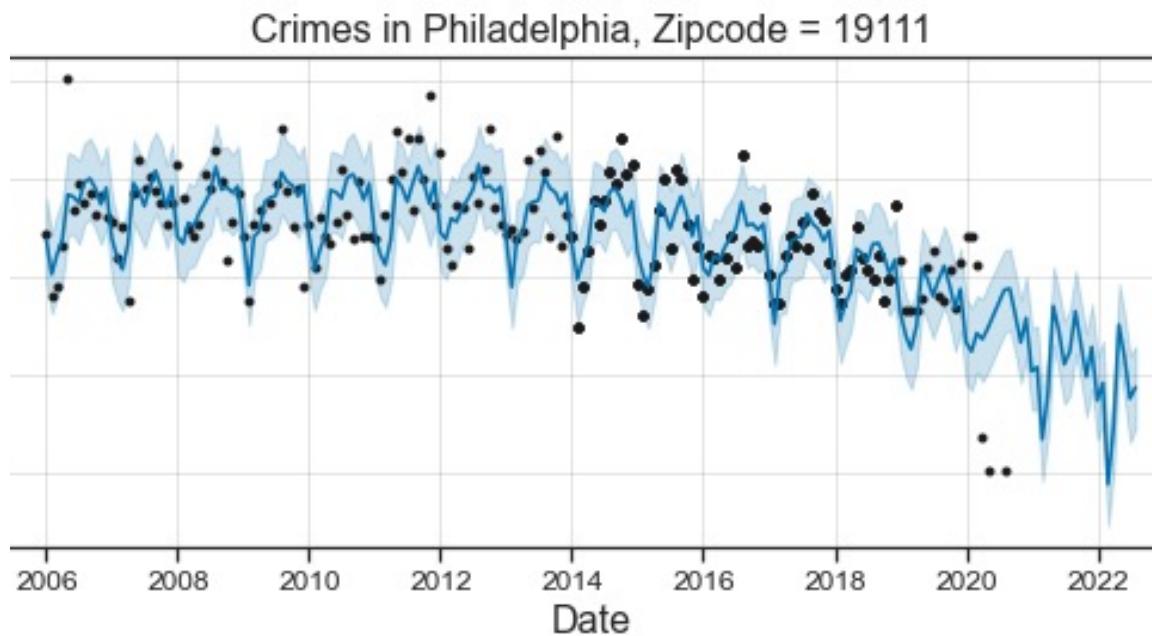


Results- LASSO (73% Acc)



Results- prophet

- Modeled each zip code individually
- All showed some decline in crime in the early months of COVID





Next Steps

- Move into neighborhoods instead of zip codes
- Work more closely with those doing neighborhood work in Philadelphia
 - Get better data
- Run analysis for each type of crime instead of simply crimes as a whole