Thesis Outline:

**1. Introduction**

Background: Police departments across the country have been experimenting with predictive policing with the hope that it allows law enforcement to better anticipate and prevent crime, rather than just responding after the incident is reported. Predictive policing involves analyzing datasets and creating models and algorithms to aid in deployment decisions, such as when and where police should be patrolling or who is more likely to commit crimes.

The use of such algorithms has been heavily criticized and questioned due to concerns about transparency and bias in policing. Other algorithms used in the criminal justice system, such as recidivism algorithms, have been shown to misclassify black defendants at nearly twice the rate as their white counterparts.[[1]](#footnote-0) (*Further expand on impact of algorithms on criminal justice, majority of literature review will go into this section*)

Case Study: The strategic subject list, more popularly known as the “Heat-List”, used an algorithm to assign all prior individuals who had been arrested a risk score of how likely they were to be involved in a shooting (as the victim or the perpetrator). This algorithm was implemented in 2012 and was one of the first advanced models used in predictive policing. The list contained nearly 400,000 individuals, and was quietly decommissioned in 2019 due to being “operationally unstable”.[[2]](#footnote-1) The inspector general stated, ““The general areas of concern in the PTV [party to violence] risk model program include: the unreliability of risk scores and tiers; improperly trained sworn personnel; a lack of controls for internal and external access; interventions influenced by PTV risk models which may have attached negative consequences to arrests that did not result in convictions; and a lack of a long-term plan to sustain the PTV models.”[[3]](#footnote-2)

**2. Methodology**

This thesis will be largely exploratory of the different datasets and relationships. Initial questions will be related to different types of crime and demographic information by geographic location (in this case, police district and police beat). Statistical methods (covariance and correlation) will be used to determine relationships between variables and analyze time trends during and after the use of certain predictive policing methods.

**3. Datasets**

The City of Chicago Data Portal hosts over 600 datasets on City departments, services, facilities, and performance starting from 2012. The portal includes datasets provided by the Chicago Police Department on Reports of Crime from 2001-Present and whether or not the crime resulted in an arrest. [[4]](#footnote-3)

The Data portal also includes a historical dataset of the Strategic Subject List with demographic information and criminal histories. [[5]](#footnote-4)Other datasets on the portal include Counts of Complaints received by the Civilian Office of Police Accountability, Parole Population Datasets (Statewide), and Geographical datasets on Police districts/Beats.

**4. Analysis**

1. Data Cleaning and Processing
2. Initial Trends and Correlations
3. Evaluation of Predictive Policing Impact (if any)

**5. Discussion**

Discuss the limitations of the analysis. This section would talk about the implications of the use of algorithms in our criminal justice system and would likely pull from a wide variety of subjects (ethics, sociology, etc.). This section will also discuss issues in data transparency across the country and provide suggestions for future research.

**6. Conclusion**

**Strategic Subject List History - Background**

* History of crime and goals of predictive policing in chicago
* First iteration of the SSL (Rand Study)
* Decommissioning - Criticisms
  + Highly publicized and criticized case
* Current State - CVRM

1. https://ojs.library.queensu.ca/index.php/surveillance-and-society/article/view/10410/8735 [↑](#footnote-ref-0)
2. https://www.chicagotribune.com/2020/01/24/for-years-chicago-police-rated-the-risk-of-tens-of-thousands-being-caught-up-in-violence-that-controversial-effort-has-quietly-been-ended/ [↑](#footnote-ref-1)
3. https://chicago.suntimes.com/city-hall/2020/1/27/21084030/chicago-police-strategic-subject-list-party-to-violence-inspector-general-joe-ferguson [↑](#footnote-ref-2)
4. https://data.cityofchicago.org/Public-Safety/Crimes-2001-to-Present/ijzp-q8t2/about\_data [↑](#footnote-ref-3)
5. https://data.cityofchicago.org/Public-Safety/Strategic-Subject-List-Historical/4aki-r3np/about\_data [↑](#footnote-ref-4)