

To: The Federal Bureau of Investigation

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Subject: Better allocate law enforcement resources using time-based trends in crime

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This year, over 50% (50 billion dollars) of the national policing budget is allotted to visible policing, with the vast majority of this 50% used for crime prevention. In New York City, around 3,600 police officers – including administration – are in charge of monitoring over 350 square miles. As a result, according to cityandstateny.com, police response times for both critical and noncritical events have increased over the past half decade.

Nationwide, many efforts have been launched to effectively focus visible policing efforts by predicting where crimes will arise. However, such methods have been shown to perpetuate and increase several biases within police forces' pasts, and no feasible method to remove the biases of current data has been proposed. Therefore, instead of location-based predictions, our team intends to tackle this issue by using time-based predictions to simultaneously guide police forces' decisions and aid in policy-making.

We will examine crime data from multiple major cities to determine trends in serious crimes over time. Our dataset consists of complaints/police reports from [Boston](#), [Chicago](#), and [San Francisco](#) spanning the years 2015-2018. Since public police reports generally include time data on when incidents have occurred, this gives us sufficient information to form a solution with time-based predictions.

Several successful machine learning initiatives have yielded useful insight on the relationships between time (of day, week, and year) and crime rates, as evidenced by this [collection of papers](#). It is likely that developing a machine learning model that can predict higher levels of crime activity based on time will yield similar trends across multiple cities. Thus, spending a few months creating such a model will be worthwhile in providing a less biased estimate of when police departments should increase security in their typical patrol areas.