

ORIE 4740 Project Proposal

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Proposal Topic: Finding Seasonal Effects in Financial Identity Theft Rate in The City of Chicago

Problem:

The city of Chicago is known for its high crime and especially high homicide rate. However, doing a quick glance at the type of crimes occurring regularly and you will find that 'financial identity theft' is actually one of the most frequent one. Although financial identity theft under three hundred dollars is not a major offense, it could still be a nightmare for low income families and for government officials as well, because tracking down the offender is not an easy job. As a result these type of unnoticeable yet frequent crime is taking up great amount of resources, and further more research shows that on average each case of financial identity theft causes over 4 hundred dollars in damage. That was the motivation for this project, which is to find some variabilities that will help us predict the occurrence of identity theft, and try to limit its frequency.

Dataset:

The dataset that will be used for this project is the 'Crimes in Chicago' dataset on Kaggle. Which can be found at <https://www.kaggle.com/currie32/crimes-in-chicago> (<https://www.kaggle.com/currie32/crimes-in-chicago>). The dataset consists of reported incidents of crimes in the city of Chicago from 2001 to 2017. The data is originally pulled from the Chicago Police Department's reporting system. The dataset itself has over 6 millions entries and it has 22 fields in total. Some of the notable fields in the dataset are Date, Address Block, Crime Type, Arrest(Y/N), and Location. Because of the long span of the data in regards to time, there is big potential for periodic trend analysis using this dataset.

Justification:

There are a few justification in studying the seasonal trend or perhaps the yearly trend on the rise and fall of the financial identity theft. First, as mentioned above, sixteen years of data is more than enough to look at the trend across years, and look at how the identity crime evolved and shifted. Second, research has shown that crimes in general do indeed display periodic trends - the weather, how close to holidays the date is, etc. could all play a factor in the crime rate. And the features provided by this dataset like the ones regarding location have a lot of potential too.