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CSE 482 (Spring '19)

Urban Crime Rate Prediction Analysis

Intro:

The goal of this project is to develop a framework for crime prediction using diverse types of data available (e.g., historical data, weather data, traffic data, demographic data, etc). Specifically, given a location, time of day, and day of week, and auxiliary data about the location, and predict the likelihood that a crime will occur. If the model developed is accurate it can then be applied to all locations in a region for a future time period.

Data:

- Chicago - https://bit.ly/2d6JuuB
- Detroit - https://bit.ly/2WTJm7P
- New York City - https://bit.ly/2tl3qSU
- St. Louis - https://bit.ly/2GHxi49

These sources will be monitored and future changes will be factored in. Crime data changes every day so allowing the project to analyze new incoming data will be a more accurate analysis in the end. The same timeline will be used for all the cities in the end to keep data analysis consistent, as well.

Timeline:

- Feb 11 - 15
  - Setup timeline and organize data collection system
- Feb 18 - 22
  - Continue organizing data and collecting consistent findings
- Feb 25 - March 1
  - Specify crime types to track in each city to keep data consistent
- Mar 4 - 8 (Spring Break)
  - Collect auxiliary data (population, poverty, unemployment rate, etc)
  - Find relationships between auxiliary data and crime data types
- Mar 11 - 15
  - Begin processing data based on each location
- Mar 18 - 22
  - Intermediate Report due March 24
  - Begin processing correlations between different city data analysis
- Mar 25 - 29
  - Divide data into specific sections for easier organization and display flow
- Apr 1 - 5
  - Evaluate results from data analysis and fix any errors and inconsistent findings
- Apr 8 - 12
  - Continue any required debugging and error fixes
- Apr 15 - 19
  - Finalize prediction model
  - Final report due on April 21 (finish final report and findings)