

# Project 1 Proposal

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Project Description: An analysis of crime data from Los Angeles City from the years 2010-2017, along with historical weather data from that area.

Data Sources:

Kaggle Crime in Los Angeles Data:

<https://www.kaggle.com/datasets/cityofLA/crime-in-los-angeles>

Open Weather Api Historical Data:

<https://openweathermap.org/history>

Data Analysis Questions:

- Is there an association between the region of LA city and the type of crime committed?
- What trends are visible in the demographics of victims? (ethnicity, age, gender)
- What times (time of day, month) are crimes more common?
- What (if any) effect does temperature have on the amount of crime happening?
- Does the time of year have any effect on the types of crimes committed?
- Does the temperature have any effect on the types of crimes committed

Breakdown of Tasks:

- Clean up the LA crimes data set
  - Remove columns that will not be used
  - Convert 24 hour time to 12 hour time
  - Split date of crime into separate columns for day, month, and year
- Obtain response data from Open Weather API on LA city from 2010 to 2013
- Merge data of max temperature from each day into crime data frame
- Create map of crime type by location using hvplots
- Create barplot of crime type by location using matplotlib
- Create bar plots of victim demographics using matplotlib
- Use line plots to analyze number of crimes by time of day, month, and year using matplotlib
- Put data into bins based on the temperature during the crime's occurrence
  - Use binned data to show number of crimes for each temperature range using matplotlib
- Compare seasonal crime data using a series of pie charts with matplotlib
- Compare type of crime with the temperature of each occurrence
- Write Report