Crime rate predictor

Problem statement

Identify what educational institution or healthcare facility is most worth investing in to reduce the city's violence crime rate?

Context

There are many factors that contribute to the increase of crime rate. My hypothesis is that community facilities have a strong correlation with the rate of violent crime. This project explores the relationship between crime rate and the educational institution and healthcare facilities. It builds a system that can predict the crime rate based on the educational institution and the healthcare facilities info in a city, and thus can help the city identify the opportunity to reduce the crime rate.

Criteria for success

Build a system that can predict the crime rate based on educational institution and healthcare facilities info at the accuracy of 80% or more. Identify the contributing factor and provide suggestions on what facilities to increase/decrease.

Scope of solution space

- Focus on California
- Focus on the schools and healthcare facilities
- Focus on the Violent crimes

Constraints

There are many factors that can contribute to the crime rate. There is a possibility that schools and healthcare has no good correlation with the violent crime rate

Stakeholders

Mentor & Myself

Data sources

- Crime report & population 2019:
  https://ucr.fbi.gov/crime-in-the-u.s/2019/crime-in-the-u.s.-2019/tables/table-8/table-8-state-cuts/california.xls
- California area by city:
https://gis.data.ca.gov/datasets/5ed97ff8ffeb4eaca7e06a8237d18e13/explore?showTable=true
- Schools:
  https://ndp.sdsc.edu/catalog/dataset/school-centroids/resource/fcc19081-2990-4018-9b0d-454081c8f0db?inner_span=True
- Healthcare:
  https://data.chhs.ca.gov/dataset/healthcare-facility-locations/resource/098bbc36-044d-441f-9442-1f4db4d8aaa0