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Violent Act Likelihood Based on Social Connectedness

Project Overview

My project seeks to understand how likely it is that a violent act in one place increases the probability of the violent acts in another place based on how "socially connected" the two places are. It seeks to give an answer to the question of "how does something that happens outside of my town really affect me?" With 24/7 news coverage, people may become desensitized to bad news unless it happens in their town. On the other hand, if one knew a violent act that happened outside their town raised the likelihood of a violent act happening inside their town, they may pay more attention. It may also help law enforcement and/or intelligence agencies know where to allocate resources for violence mitigation. This degree of social connectedness would then be compared to the spatial ramifications of being close to violence. Meaning, is proximity more important than connectedness when it comes to vulnerability?

Data Overview

I was considering using ACLED (The Armed Conflict Location & Event Data Project), the FBI's Crime Data Explorer, and the Facebook Social Connectedness Index. ACLED is a collection of political violence and/or protest events on every continent, with many countries included. It has a web dashboard, and the data itself can also be requested through creating an account and being granted a unique token. ACLED doesn't necessarily contain crime statistics unless they consider it to be politically motivated, and that is where the Crime Data Explorer comes into play. It aggregates crime data for most states, by police department. Finally, the Facebook Social Connectedness Index measures how connected two areas are based on how many Facebook friends the two areas share. The higher the amount of Facebook friends are

between the two areas, the more connected they are said to be. It can be as detailed as the city a user lives in, assuming they state that in their profile.

Data Accessibility

Both ACLED and the Social Connectedness Index require an account to access the data, but 'student' is one of the options for both when filling out the account information section, so it should be accessible pending account approval. The Crime Data Explorer has certain datasets readily available and also has an API that returns JSONs for various queries.

Initial Thoughts on Data Limitations

ACLED can be a bit specific on what it considers political violence/unrest, so it does not holistically report crime. That is fine, as that is not the original intent of the dataset to begin with. This is where the Crime Data Explorer helps. The case study (or studies) is still uncertain, so one of the datasets may end up being much more useful than the other. With the Social Connectedness Index, its validity depends on the input of the user, so there is definitely a possibility for unreliable data. Furthermore, as Facebook seems to be used less and less by young (teens and young adults) people, it may only provide insight into the connectedness of one age group of the population.

Methods

The project will be comparing social connectedness to spatial proximity in regards to violence probability. The very broad, over-simplified method is to compare violent crime upticks in areas with a high degree of connectedness which are not close to each other, versus areas that are neighbors. This may mean using city/county boundaries to determine contiguity, or using a distance-based method. Modules like Pandas, GeoPandas, Pysal will be used in analysis. Point

pattern analysis and spatial lag will probably be implemented. I am not sure how, or if, spatial regression will play a role in the project.

Literature Review

I will be uploading a separate literature review to my project repository soon. I pivoted my project focus about two days ago and am very early on in my literature review.

Exploratory Analysis

Upon having my accounts approved I will also upload some exploratory literature data analysis to the repository.