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CS 448B: Data Visualization

Self-Reflection Writeup

I most enjoyed the final product of being able to visualize all of the different trends. This was extremely pleasing to see as I was able to turn a huge dataset of 4000 or so messy data points into a visually aesthetic and easy to follow data visualization that clearly shows climate change's impacts on cities around the world. I've found that many climate journalists and scientists often describe climate change impacts very abstractly, which is not effective at convincing and impacting the general public. Thus, my goal in this project was to build out a data visualization that could both show the impact of climate change on cities and allow users to interact with it to find their own trends and analyses. All in all, my final product was able to do so and I greatly enjoyed seeing it meet the needs and goals I set at the beginning of this project.

What I found particularly hard to do was the D3.js visualization. Although the data cleaning was very tedious and annoying, since each city provided its data in inconsistent and often incomplete manners, the final visualization took the most amount of time. I probably spent about 15 hours on data cleaning and about 30 hours on the data visualization itself. Even so, there were a few bugs I was still unable to figure out. For example, I found that when I plotted all three D3.js maps on the same webpage, only one map would be responsive to user changes and the others would not. I tried attacking this in multiple ways, including developing different variable names, isolating various maps, etc., but could never get it to consistently work for all three (hence why my website links to three separate data visualizations on different pages instead of on the same page). In addition, I had an error around the hovering tool, where I was unable to have the hover reappear after certain filters had been chosen. I'm not entirely clear why that is, but was unable to solve this. However, the vast majority of bugs I was able to solve and produce a fairly clean data visualization that worked well with human interactivity and surpassed my expectations for what I thought I could accomplish.

Aspects of this project that worked well for me were the data obtaining. There is relatively sufficient climate data available out there, with the only challenge finding consistent and accurate climate data. Luckily, I was able to find a good dataset due to this organization that already collects such data. Unfortunately, this data was not clean and easy to use initially. However, I was able to clean the data fairly well and arrive at a cleaner final data set that met the needs of my project. Thus, data obtaining and cleaning were steps that worked extremely well for me.

In the future, if I were to develop my next data explainer tool, I would try and find more data sets to include more cities than just the top 100 in the world. In addition, focusing on rural areas can be helpful as it'll help provide more context on climate change's impacts on rural populations and whether it will lead to mass migration to the nearest city (which itself may be impacted by similar climate change hazards).