**Final Assignment Short Paper**  Jason Chang

Website URL: [Impact of COVID-19 in Boston](https://sites.google.com/brandeis.edu/impacts-of-covid-19-boston/home?authuser=1)  
*Original Framework*  
 The original idea for my final project was to execute a very ambitious project by mapping out locations of where there were recent small business closures in the United States. Furthermore, when I began to embark on my research to find data on this issue, I was unable to find concrete and detailed data of what I originally wanted. So, I decided to take another approach and narrow my scope to just the Boston Area. I was able to find data relating to PPP (Paycheck Protection Program) Loans and yelp restaurant data. However, the main problem I saw when sifting through these datasets were: #1 There was no location information attached to it. #2 The information in the datasets itself did not convey any information that could be extrapolated further – thus, putting me in a sticky situation.

*Change of Plans + Scope of project*

I had to look at my project in a different way, but I knew I wanted my final project to circulate around economics and inequality, so another indicator that I began to research about was unemployment data. Luckily, I was able to find data from this company called AGS (Applied Geographic Solutions). The great part was that this dataset included unemployment data through the months of the pandemic and it sorted it by zip codes – which allowed me to also look at which zip codes were being hit the hardest. At this point, I wanted to add another dataset to further understand the inequality in these areas during the pandemic and over the last few months I’ve read articles about how Covid-19 has been disproportionality affecting minority communities are a higher rate. Therefore, I began to dig into trying to find numbers about the number of tests, testing centers, positivity numbers, deaths, etc to understand how covid-19 virus has impacted the Boston Area.

*Software + Aesthetics*

The software that I had intended to use from the start was ArcGIS which was why having a location or an area shape attached in the dataset was crucial. Most of my data points were based on numbers and my main goal was to compare and contrast, which is why my main aesthetic appeal for my maps was the utilization of shading to show which areas were hit the hardest. For the Covid-19 virus map, I utilized small circles with a cross in it to indicate testing location sites and a circle/balloon that varied in size depending on the number of tests in a certain zip code. I believed this was the best way to articulate the information visually on my ArcGIS map. In terms of presentation, I am satisfied with how it looks, but in terms of the user experience I wished the unemployment map was more intuitive. It requires the user to constantly click and toggle different filters in order to see the data. As I reflect after having watched the amazing presentation of websites by my fellow peers, I would have used story maps for my unemployment data. This would allow me to have more freedom in how I am able to convey my information to the users. I used google sites as my platform because I thought it was the easiest to learn and embed ArcGIS. Plus, google sites allowed me to make a visually pleasing website. If there was one thing, I could change would probably be the pictures of the Boston skyline for my header – for some of the pages the contrast between the picture and the title can be hard for some to read, but I decided not to change it because I could not find a better photo and it looked visually pleasing. Another issue that was brought up was the pop-up menus in ArcGIS and whether or not it should just display the unemployment number or should there be a full sentence that describes it. Initially, I had just the unemployment value displayed, but I felt that it was too bland and boring because the numerical value barely took up any room of the default size of the pop-up menu. Therefore, I configured the pop-up menu to display a sentence that indicated the zip code, the month, and the unemployment number.

*Takeaways*   
 The ultimate goal for my project was to look for any inequality or discrepancies among zip codes in the Boston Area through the use of unemployment data and Covid-19 testing data. I believe there are areas where we can clearly see that large difference in gaps, but at the same time there needs to be more information and more variety of information to make a clearer conclusion. Luckily, while doing this project, I did not catch myself playing out unseen biases around race or gender, I feel this is mainly since my data was numerical – had I approach this project in a different field of study, I am pretty confident that I would have unseen biases.