Data Science Reflection: Neighborhoods, Culture and Poverty, Winter 2020

Winter semester of sophomore year, I decided to take classes that I would not normally take and that were outside my major. There were two reasons for this, the first being that the semester before had been a STEM heavy semester, which made me want to take a break from content heavy classes. The second being that I was eager to get as many graduation requirements completed before junior year. For these reasons, I decided to take a sociology class called “Neighborhoods, Culture and Poverty”. What started out as a class used to take a break and meet requirements ended up as a springboard for me to discover a new career path and skillset unknown to me at the time.

The first thing that I learned were basic statistical terms and tests as I had not taken a statistics course by that point. Basics like linear regression, ANOVA tests, t-tests and correlation were taught as these were processes commonly discussed in lecture the literature. From there, R was introduced as well as the accompanying work environment, RStudio. This was my first introduction to any programming language which made for a steep learning curve. I also learned how to import different packages into RStudio and read documentation for code implementation. Obtaining datasets and cleaning them for only relevant information was also taught using the dplyr package. Lastly, data visualization was another skill gained which involved learning how to use packages such as leaflet and ggplot2. The data visualization that was created in RStudio eventually was used in a report that explored racial education and income inequality in Los Angeles County.

I ended up learning several things from this experience. For one, I was introduced to my first programming language, R. Not only did I learn how to code in R, but also how to troubleshoot errors as well as think critically about approaching problems. I also learned how to obtain and clean datasets, followed by visualization of the same materials. These skills not only helped me decide to change career paths but came useful in later projects and classes. With these same skills I carried out research the following summer that was published in an academic journal and learned Python. With Python, another programming language, I was able to apply many of the same principals I used to learn R. This made the process much easier than without the experience. I also used my R skills later to create a Shiny application which further looked at social inequality using national data.