Cass Kestle

October 7, 2020

Final Project Plan

For my final project, I will be conducting research on my own. There is not much else to say about the team component of the project since I will be completing the assignment entirely on my own. The topic I have chosen to investigate is air quality. I came across this topic in the past assignments document you directed us to on Github. I noticed when opening the document that it was from fall 2017. This was particularly interesting to me, because in the past three years, climate change has become a very large topic in the US. I believe this is a very pressing issue now more than ever and looking into AI that helps us detect air quality seems exceptionally fitting for the times.

This topic space is very important because air quality directly effects human life. If we are not able to collect data on a large scale or are unable to process the data efficiently once we have collected it, we will not be able to stop the lethal effects of climate change. I think once I am able to look at the data and pinpoint the patterns, I will be able to come up with more practical solutions to the issues at hand.

After further investigation of the past project provided as an example, I noticed that they referenced an organization that could be very useful to me. It was called the United States Environmental Protection Agency, US EPA for short. The EPA’s mission statement is to protect human health and the environment. The EPA collects data from state, local, and tribal agencies and then uses it to create a database. This database is called the Air Quality System database, or AQS for short. Using the AQS, we can detect patterns in air quality and even predict certain future environmental outcomes. The data provides information on the air quality in different regions and also levels of pollutants in corresponding areas. I plan to use the database for the majority of my research as it is the most widely used and is from a trustworthy source.

In order to earn a great grade, the first thing I need to do is get to know my topic space better. I am concerned about the environment and I already know a little bit about air quality and the effects climate change has had on it. I will want to look further into the effects that air quality has on human life. The next thing I need to do is create an outline of the research paper, just a template that outlines the basic format of my writing. Next, I will start to examine the data and see what the patterns point towards. After pointing out the patterns, I will begin to examine what causes the issue and how we can help counter the effects we are currently seeing in air quality.

I think another piece of this that I would like to emphasize are what pollutants make up this toxicity in the air. By doing this, I can show how these chemicals got into the air and from there I can hold humans accountable for the air quality. This will emphasize our role in climate change and I think the delivery will be much more impactful if I include these statistics.

The code component I am going to add will likely be some kind of graph generator that shows the levels of pollutants in different regions, as to highlight the worst areas as well as the best. This might also encourage people to be more conscious of their choices if they see a graph showing their region is much worse than surrounding areas. It will also function as a rewarding visual to regions who have done more to prevent air pollution in their areas.

The final step to getting a good grade on this project will be to keep up with the deadlines. I am very excited to learn more about this topic, and I hope that I am able to present all of the information I collect in a meaningful and impactful way.