Computer Science Projects –Survey

Name: _____James McSweeney_____

C-Number : _____12163035_____

Course: _____CSC 411_____

A. What problem were you trying to solve or what was the goal of your project?

Find and weigh different variables in accordance with their role in Wildfires.

B. Why hasn't it been solved yet or what is wrong with current solutions?

There are some research papers doing similar ideas to mine. In my report I go into two different papers as apart of the state of the art. My work is different because it focuses on the USA and uses two different satellites for data: Daymet and MODIS.

In the USA similar solutions are all created by different governmental agencies. All of which have unique guidelines and tactics. The goal of these agencies is to save human lives. So, most of their data and effort are focused on finding which metropolitan area is in danger.

C. What ideas or technologies does your project use?

I used R for all the programming. SQLite was used to retrieve data from a wildfire database.

All the data was collected via satellite: NASA's MODIS and DAYMET satellites.

D. How did you (or will you) use these new ideas or technologies?

I will use these technologies for data collection. The new ideas I learned for this project are the different kinds of classification methods.

E. Were you able to implement your project?

I was able to implement my project. If I had more time, I would continue by doing a variation of different sampling schemes, classification methods, and hyperparametric optimization.

F. What did (or will) you do to avoid or eliminate bugs?

Most of my bugs were in the construction of the database. It was very hard to get data for this project. Initially I was using large satellite images to deduce the variables. After weeks of trying, I realized it was not possible to do as I intended. I had to pivot my strategy of collecting data.

G. What did (or will) you (or will you) do to make your implementation efficient?

I tuned the hyperparameters for several of my methods. Including K-Nearest Neighbors, SVM, and Random Forest.

H. Did you get any feedback from users of your project?

While I was brainstorming initially, I bounced ideas off several of my fellow CS majors two at U Miami one at SUNY Stoneybrook.

I. Did you get any feedback on your technical documentation?

I went over my documentation with professor Angular. I also had my friend Keana who is a neuroscience major at UM. Her background in Computer Science is very limited but she said that she could understand the project in a general sense after reading my documentation. Additionally, she helped with APA formatting.

J. Did you get any feedback on your user manual?

While receiving help with my technical documentation I had them look over my user manual.