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CIS-635-03

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Final Project Progress Update

Progress So Far

Items that have been completed so far for this project includes:

- Downloaded required datasets.
- Created the python project and its repository.
- Successfully able to read CSV files.
- Successfully able to clean datasets.
- Successfully able to interpolate and perform imputation on datasets.
- Successfully able to save/re-load datasets.

Data source:

- Calls-for-Service (NIJ)
 - <https://nij.ojp.gov/funding/real-time-crime-forecasting-challenge-posting#data>
- Weather (NOAA)
 - <https://www.ncei.noaa.gov/cdo-web/datasets#GHCND>

Challenges

The only difficulty that has been encountered so far is centered around the fact I am doing the project solo. What this means is that progress is only made when I make it. Towards the start of this project, this was a real issue as I wasn't sticking to the timeline I had created for myself and was not making any progress. However, over the past week I have pushed myself to resolve this by forcing myself to sit down and complete something every night. With that, I am currently back on track to complete this project in a timely manner.

Collaboration

Not applicable since this project is being completed solo.

Next Steps

Tasks that are still outstanding includes:

- Normalize datasets.
- Research and implement best practices for bucketing/binning weather.

- Potentially implement time series analysis.
 - Need to determine if required if the data spans only four years.
- Implement information gain and output decisions trees.
- Implement correlation analysis with the χ^2 test and outputting line graphs to show correlations.
- Perform tests and compare outputs with expected results.

While there certainly is a good amount of work still to be completed, it should be straightforward from here since I have the data already in a data frame and just need to perform computations on it. The goal is to have the remaining tasks completed by the week of December 4th, and to achieve this goal, I'll need to ensure I am completing at least two of these tasks a week. Given that the current week is that of Thanksgiving, I should have ample opportunity to squeeze in additional work hours on this assignment. Currently, the main challenge to implement all of this is mostly time. Given that I am working full-time and have a term project in my other course, there are simply a lot of items requiring my time and attention. Using Thanksgiving break to work on my projects is the best way for me to overcome this obstacle.