(la)Monty Python CAPP30122 Deliverable 2

Project Description

Measure impact of various demographic, economic, and/or political features on natural disaster recovery outcomes in the U.S. We plan to use data from several government sources, including the Census Bureau, and FEMA to capture demographic, economic, and natural disaster measures. We would also like to use satellite image data from pre- and post-disaster to create a basic measure of structural recovery and its geospatial distribution (dream big!). For our interface, we'd like to create an interactive dashboard (possibly in Django) that allows a user to explore how different measures relate with recovery outcomes through maps/charts (folium, leaflet, plotly). The front end will use data from live API connections with various data sources.

Data Sources

The team aims to acquire data solely through APIs. The list is subject to change and appended is plan to integrate the APIs to the codebase. The APIs are as follows:

a. openFEMA API: Ali Klemencic, March 3rd 2022
b. American Community Survey API: Wesley Janson, March 3rd 2022
c. Planet API(*): Aditya Retnanto, February 1st 2022

Project Architecture

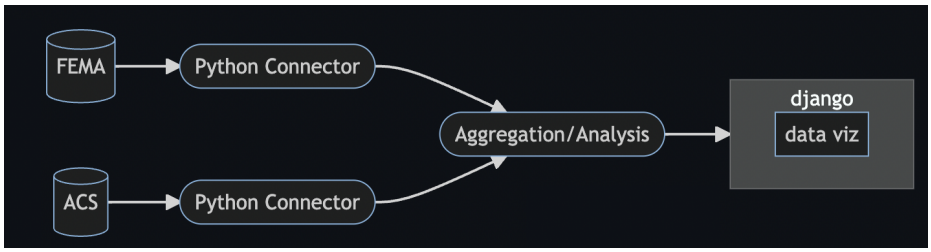

Figure 1. Proposed Architecture of Natural Disaster Analysis Tool

Project Timeline

Wesley will primarily focus on building the python connector to the ACS API(3/3) and build regression models(3/10). Ali will build the python API connector to the openFEMA API (3/3) and develop scripts to aggregate all information the API calls and compile data from GET requests into a structured format (3/10). Zander will build the Django frontend that calls the user input(3/10). Aditya will build the visualization (3/10) and assist in developing the ACS python connector(3/3). Tasks are subject to change where information in our final report will be the most accurate.

Lamont Questions

We are planning on creating a direct connection between our app and the data source APIs and making live calls to the API instead of storing the data in a database. Do you have any tips for this type of design or pitfalls to avoid?