You Are Giving Me a Headache

Purpose: Create a predication model for likelihood of headache based on barometric pressure loss or gain

Data Sources: API call for Maryland based on the 16 Days Forecast.

<https://openweathermap.org/forecast16>

Steps needed:

Krystal: Find scientific research on barometric pressure thresholds, machine learning, creating the engine

Corey: Pull the API call for 16-day forecast

Jenny: Flask App Creating queries (reviewing necessary queries and what we may need)

Kevin: Creating the bare bones html page

Visualization:

Line Graphs for pressure changes for each day

Map of state with likelihood on migraine color coding

The headache journal does conclusively say that people who do suffer weather related migraines are more likely to experience based on barometric changes in 24 hours.

A study published on ncbi states that patients were most likely to experience migraines in barometric shifts of greater 6–10 hPa.

Thresholds:

1. 0-5 Unlikely
2. 6-8 Likely
3. >8 Highly likely

Class skills used:

1. Pandas
2. API Call
3. Flask
4. Machine Learning
5. HTML
6. D3
7. Leaflet
8. SQL Alchemy

New Road Map:

1. Create an API call
2. Create a Flask APP with functions to do the following:
   1. Input Zipcode
   2. Call weather API for the next 7 day forecast
   3. Call in machine learning to predict likelihood of migraine
3. Create Webpage
4. Use Leaflet to produce a map of Maryland
5. Use pymongo to hold machine learning data and teach machine the thresholds for migraines.
6. Use d3 to create color coded zones on top of zip code for likelihood