



Knight Foundation  
School of Computing  
and Information Sciences

# Knight Foundation School of Computing and Information Sciences

Spring 2022 Senior Design Project

## Monitoring and mitigating misinformation that disrupts adaptation to climate driven health threats

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### PROBLEM

We've created a system that involves a general dashboard to help monitor misinformation in the climate space.

To build this kind of tool, it involves three major components:

- Representation of large pools of data from various sources.
- Cross-relating data between these sources.
- Developing meaningful metrics that encapsulate the relationships represented in the data.

### CURRENT SYSTEM

Currently, we are using three strong sources of data (Newshp data, FEMA data, media bias fact check data) to help in our campaign.

We have constructed representations of these large pools of data individually. The graphs are able to dynamically change based on user input.

Some of these inputs include date range, source, engagement levels, climate keywords, etc.

### REQUIREMENTS

#### Hardware:

- N/A

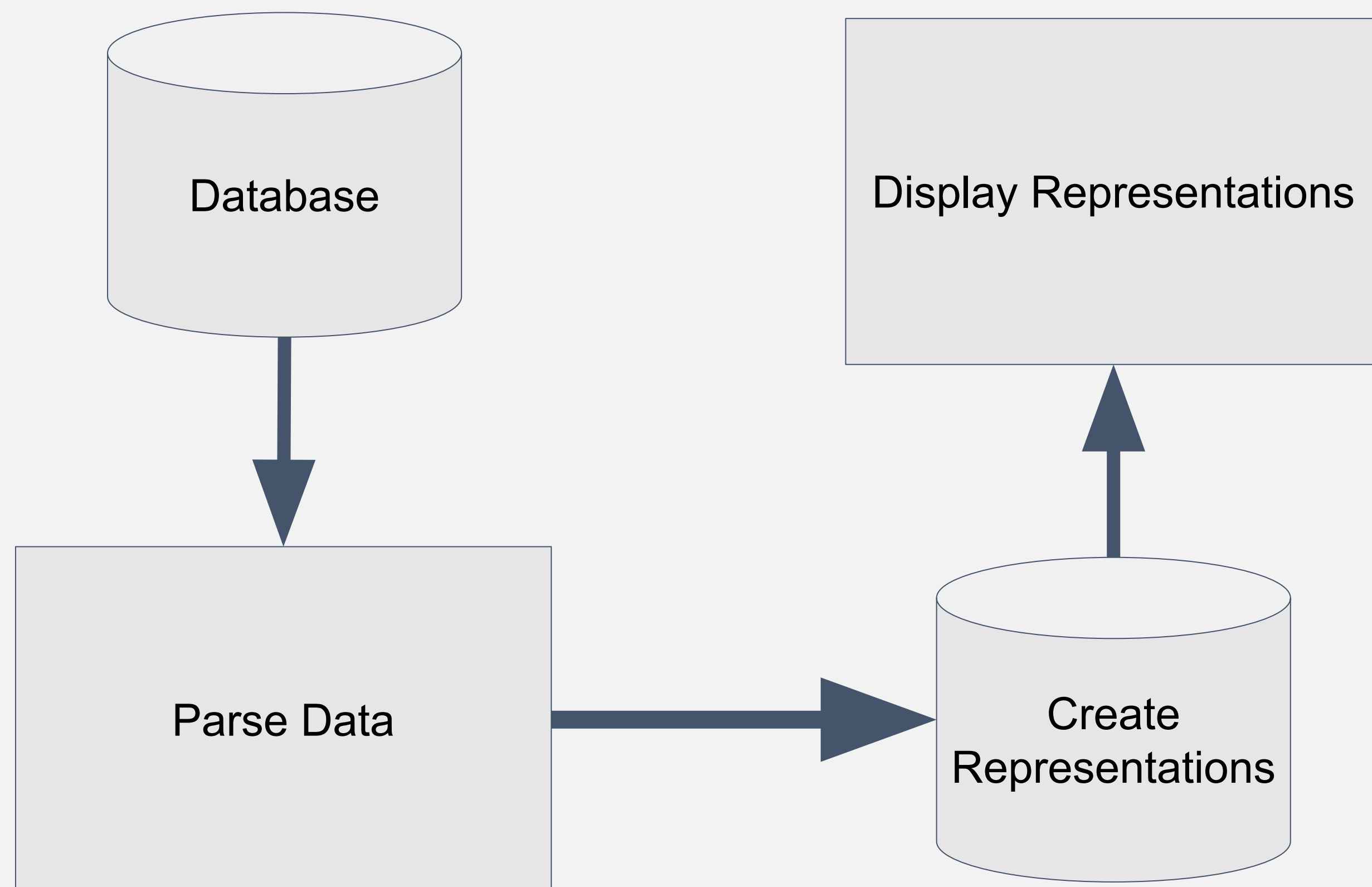
#### Software:

- Python
- Visual Studio Code 2019
- Django

#### Version Control:

- GitHub (<http://www.github.com>).

### SYSTEM DESIGN



### SCREENSHOTS

```
my_board = dashboard.Dashboard()
my_board.get_preview()
my_board.get_preview()
csv_file = './climatechange/sample_data/claims.csv'
data = pd.read_csv(csv_file)
x = data['source']
y = data['paragraph_length']
df = pd.read_csv('./climatechange/sample_data/claims.csv')
plt.bar(x,y)
plt.xlabel('sources')
plt.ylabel('paragraph_length')
plt.title('Claims Data')
plt.show()
print(df)
csv_file = './climatechange/sample_data/claims.csv'
data = pd.read_csv(csv_file)
x = data['source']
y = data['paragraph_length']
df = pd.read_csv('./climatechange/sample_data/claims.csv')
plt.scatter(x,y)
plt.xlabel('sources')
plt.ylabel('paragraph_length')
plt.title('Claims Data')
plt.show()
```

- Bar.py, plot.py, and scatter.py were used as part of other scripts in order to set the foundation for building graphs for data visualizations as project progressed.

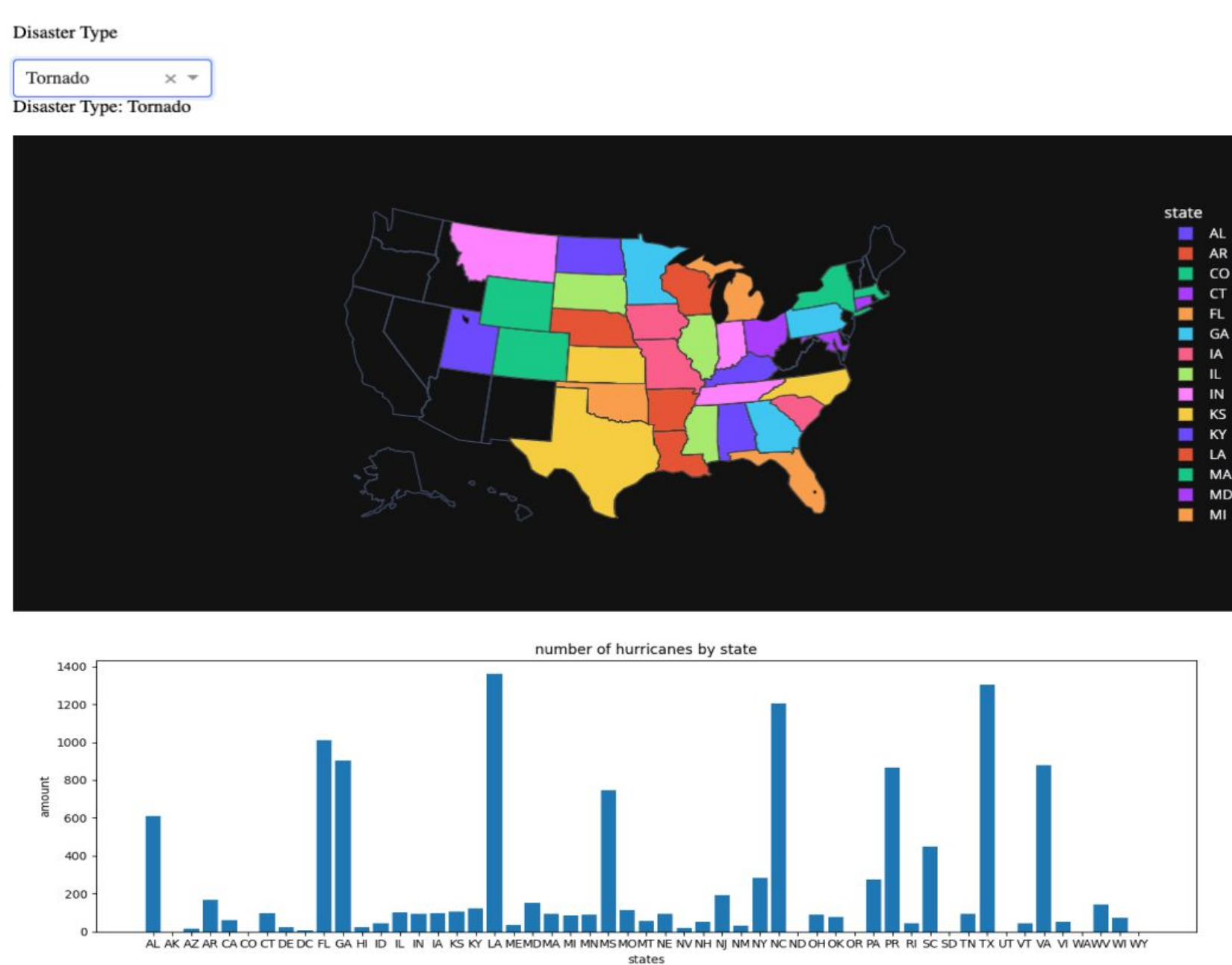
### DASHBOARD

#### Monitoring and Mitigating Misinformation:

#### Climate Dashboard



#### FEMA Disaster Declarations



### SUMMARY

Individually, I contributed code to scripts to be used to generate charts for data to be used for building data visualizations for the parsed data.

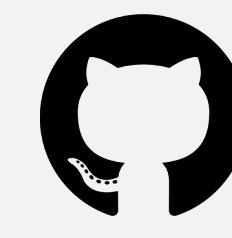
Overall as a group, we laid the groundwork for future Capstone teams to iterate on. We were able to effectively decide on which technologies were best for this project, parse through large amounts of data efficiently, and create visual representations based on the parsed data.

The next step in the project involves cross relating the data and setting up an efficient backend to dynamically create frontend graphs.

### IMPLEMENTATION



**Google Docs** - Used to keep track of everyone's contributions to the project. Multiple meetings and their information has been recorded through Google Docs.



**Github** - A site we used to access our code. For the group to test and add changes to the project.



**Plotly** - Allows a point & click interface. Assists in creation of our dashboard.



**Django** - Helps manage the database and plotly app.



**Python** - The main language that we used for this project.

### REFERENCES



Engineering  
& Computing

### ACKNOWLEDGEMENT

The material presented in this poster is based upon the work supported by Sam Malloy. We thank Sam Malloy, Mowafak Allaham, and Ayse Lokmanoglu for their mentorship and assistance that we received throughout the senior design project.

FLORIDA INTERNATIONAL UNIVERSITY