Name of group members and CNetIDs:

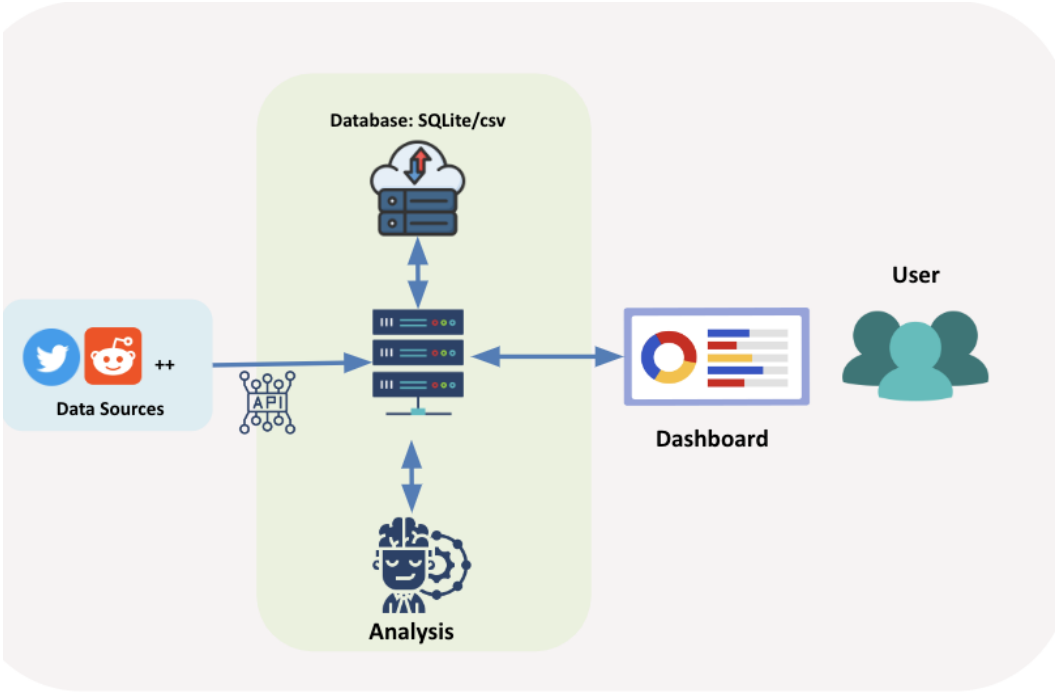
Team Name: Lie-brary

Members: Xiomara Salazar (xiomara@uchicago.edu), Shradha Ganapathy (shradhag@uchicago.edu), Reza Rizky Pratama (rezapratama@uchicago.edu), Fei Wang (chenhui1@uchicago.edu)

Project Abstract (200 words max)

Our project's goal is to analyze aspects of the SAFE-T Act that were misconstrued on social media to determine how certain myths are constructed and their spread. We leveraged ChatGPT to build communication to myth-bust and help counter misinformation. Note that we will define misinformation on the basis of what has been fact-checked as false through InjusticeWatch (an NGO that has been advocating for the SAFE-T Act).

Overall structure of the software (1 page max). A diagram of how the modules are connected with one another might be helpful, but is not required.



Description of code responsibilities for each member. (Who was responsible for what tasks/code/etc.)

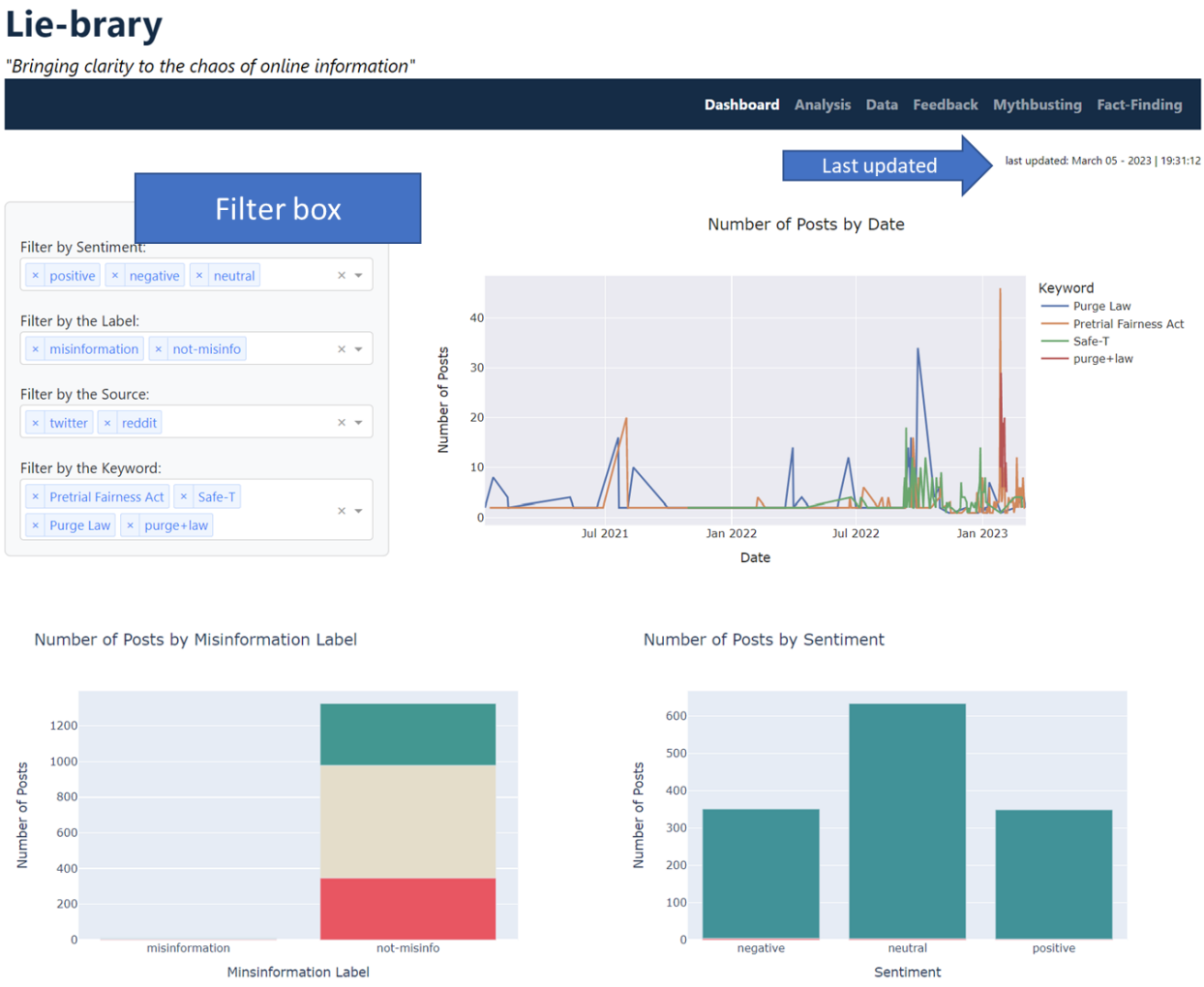
- Scraping
    - Twitter: Reza
    - Reddit: Fei
- Analysis
    - Labeling: Shradha and Xiomara
    - Analysis: Shradha
    - Sentiment Analysis: Fei
    - Classifier and Predict Functions: Xiomara
- Mythbusting ChatGPT function: Shradha
- Visualization and ChatGPT Integration: Reza
- Integration of code and debugging: Reza and Fei

Short guide on how to interact with the application and what it produces.

- There are two ways for a user to interact with our application:
    - They can access our dashboard view generated with our static dataset through running the following command in the terminal:
        - python3 -m lie_brary dashboard
    - They can pull the latest scraped data from Reddit and Twitter with classified into misinformation or not based on the classifier we built via:
        - python3 -m lie_brary getdata

There are four menus on the dashboard:

1. **Dashboard:** contains the visualisation about the data, it can be filtered based on the sentiments, labels, sources, and keywords. The data and last updated time are updated after running the "getdata" function.



2. **Data:** It contains cleaned data in the form of a table. It can be filtered.
3. **Feedback:** It contains a form for users if there's a misclassification about the sentiment and the label. The response is saved in "feedback.csv", and can be used as training data for the next iteration.
4. **Mythbusting:** Interactive myth-busting **suggestion** about specific issues/topics related to SAFE-T Act. It connects with OpenAI GPT-3's API.
5. **Fact-finder:** Interactive fact-finding **prediction** about specific issues/topics related to SAFE-T Act. It connects with OpenAI GPT-3's API. The results will be a label (misinformation/not) and the reasons.

What the project tried to accomplish and what it actually accomplished. (1 page max).

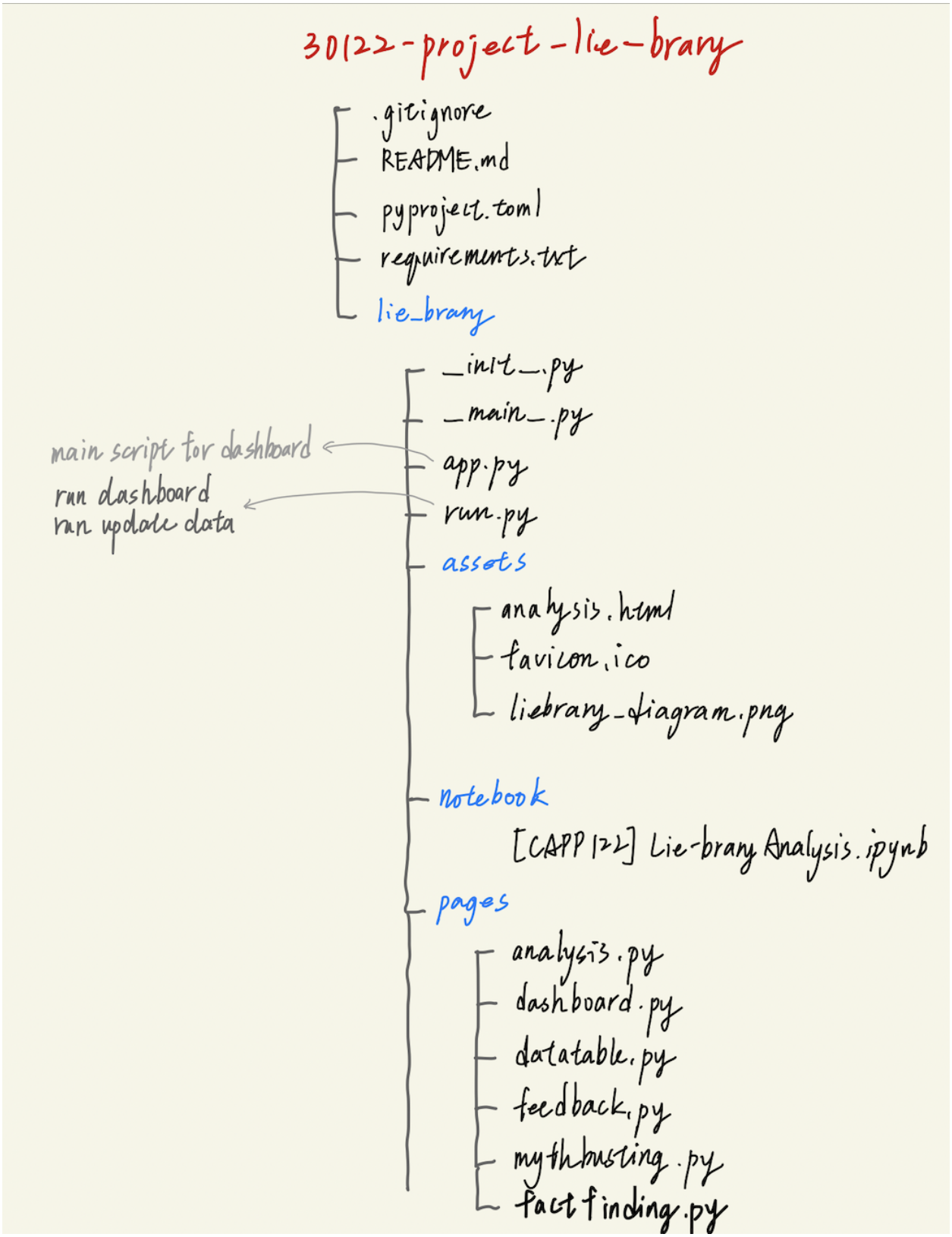
Task	**Accomplished**	**Insights**
Scraping data	X	- Challenges with platform accessibility, data retention pipelines and finding relevant content
Analysis	X	- How best to analyze and present the data in an easily parsible format - What do we need to know and what would we like to know? How to maintain the integrity of the analysis despite a limited sample size?
Visualization	X	- How to build functionality that is useful to the end user while integrating the preceding work - How to balance design elements
ChatGPT Integration	X	- How to present the integration and balance access costs to ensure low overhead for non-profits

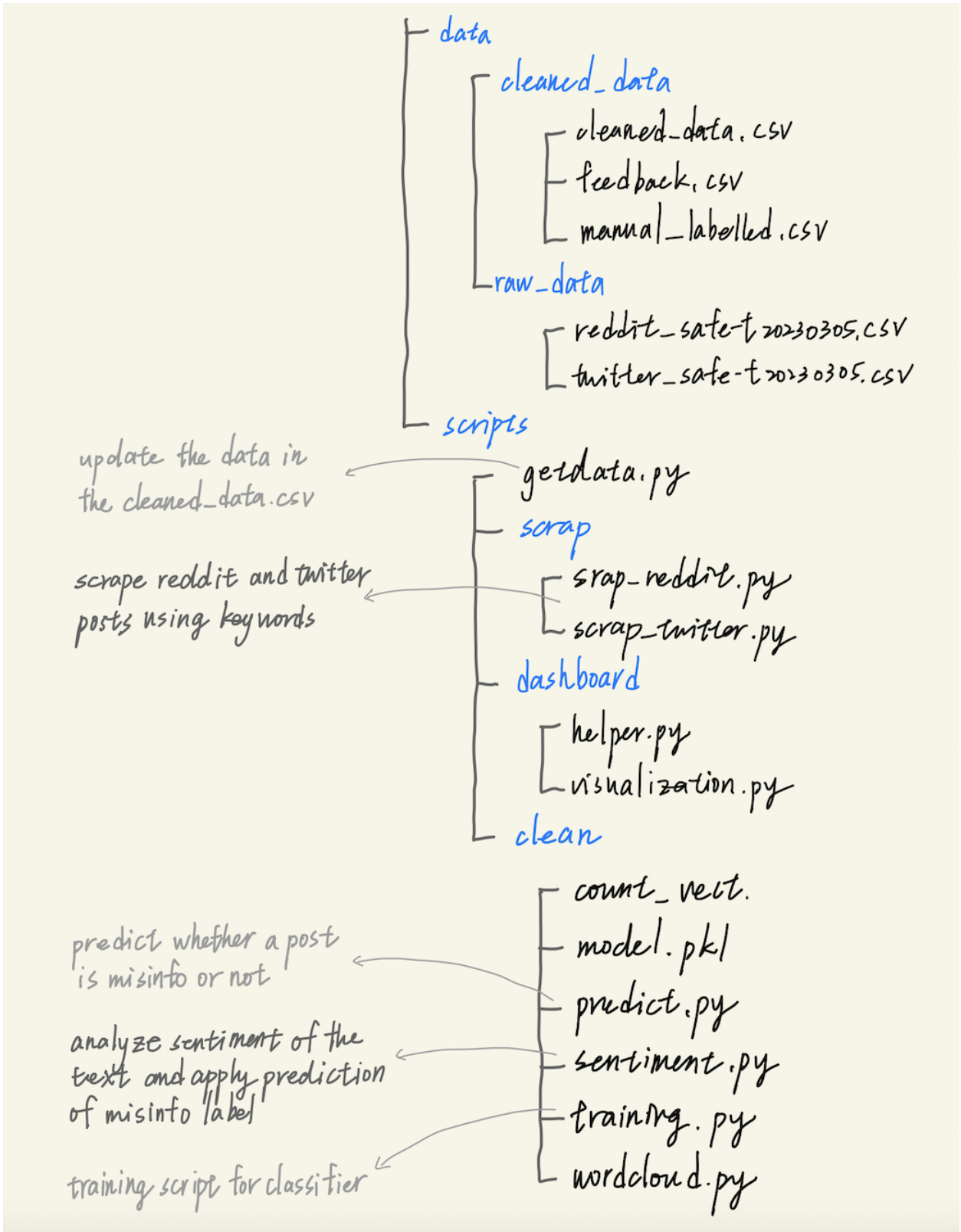
**While we did not explicitly note that we wanted to build a classifier, we were successfully able to construct one as we were ahead on the timeline of our other expected deliverables.*

Key Takeaways:

1. The importance of building a comprehensive framework/schema for a project -- especially when working across responsibilities and team members
2. How to connect individual, local work with the broader picture
3. The difficulty attached to building out a product from scratch (especially models)
4. While we assume that certain issues are widespread, the reality is that they may not be as commonly accessible as previously assumed. However, this does not negate the impact of misinformation or the need to build messaging to counteract its influences on populations that may be likely to believe in what's promoted. This also does not take into account amplification (through interactions or engagement) even among the smaller population exposed to it.
5. The broader shift of misinformation from being propagated in public spaces to more private entity types (groups, messaging platforms such as Whatsapp, and Messenger).

Project schema




data
cleaned_data
cleaned_data.csv
feedback.csv
manual_labelled.csv
raw_data
reddit_safe-t_20230305.csv
twitter_safe-t_20230305.csv
scripts
update the data in the cleaned_data.csv
getdata.py
scrap
scrape reddit and twitter posts using keywords
scrap_reddit.py
scrap_twitter.py
dashboard
helper.py
visualization.py
clean
count_vect.
model.pkl
predict whether a post is misinfo or not
predict.py
analyze sentiment of the text and apply prediction of misinfo label
sentiment.py
training.py
training script for classifier
wordcloud.py

How our files interact