CS 4485 Weekly Report 2

Group Members: Ashish Das, Phong Dau, Jiwoo Park, Antony Batres, Anish Sivakumar, Uday Vasepalli

Team Lead

- **Responsibilities:**
    - Main point of communication.
    - Oversees the project and ensures alignment with goals.
    - Risk Management and Problem-Solving
- **Assigned To:** Ashish

Data Scientist

- **Responsibilities:**
    - Data gathering and preprocessing.
    - Analysis and model development.
    - Sentimental Analysis
- **Assigned To:** Antony, Uday

Software Engineer (Front-end)

- **Responsibilities:**
    - Develops and maintains the system, including the user interface, and collaborates on UX design.
- **Assigned To:** Phong, Jiwoo, Anish

Software Engineer (Back-end)

- **Responsibilities:**
    - Develops and maintains the system, including the back-end architecture, API integration, database interactions, and integration with the front-end.
- **Assigned To:** Anish

Scrum Master

- **Responsibilities:**
    - Creates stories for the team and ensures Agile processes are followed.
    - Remove Impediments and Empower the Team
- **Assigned To:** Ashish

Project Title: Tweet Analysis for Crisis and Disaster Response

Reporting Period: 02/03/2025 - 02/10/2025

Completed Tasks & Time Spent:

Weekly Report: Ashish Das

This Week:

- Introduced myself to the team and reviewed project requirements to ensure alignment. (2 hours)
- Set up Notion and Git for documentation and version control. (1 hour)
- Appointed as Team Leader and Scrum Master to guide the team and ensure Agile practices. (20 minutes)
- Drafted and prioritized user stories for dataset collection, model training, frontend/backend development, and testing. (1 hour)
- Collaborated on the project proposal, defining goals, roles, and risks. (2 hours)
- Initiated solution design documentation, covering datasets, model training, frontend/backend architecture, and deployment. (2 hours)

Plans for the Coming Week:

- Finalize data sources for high-quality and relevant data.
- Oversee and fine-tune the model for improved accuracy.
- Refine solution design documentation with additional details and visuals.
- Conduct a team meeting to review progress on user stories, proposal, and documentation.

Issues:

- None

Phong Dau

This week:

- Completed testing the base model bart-large-mnli with pre-labeled data. The average accuracy achieved was around 70%. (2 hr)
    - Tested the model at 70%, 80%, and 90% confidence levels, with the 90% confidence level producing slightly better results. However, the overall average accuracy remained around 70%.
- Identified that the base model currently extracts only 1 category and may require adjustments to handle more nuanced natural disaster-related classifications. (10 m)

- Collaborated with the team to create a high-level solution design for the entire project. The design outlines how the product will detect disaster-related tweets. (2 hr)

Plans for the Coming Week:

- Focus on finding an appropriate dataset for fine-tuning the model to improve accuracy and expand its capabilities.
    - If a suitable dataset is identified before the next meeting, begin researching methods to fine-tune the model.
- Explore ways to incorporate multiple categories and test/train the model with a broader range of natural disaster-related data.
- Collaborate with the team to align on next steps and prioritize tasks.

Issues:

- None

Jiwoo Park

This week:

- Front-end team meeting for solution design report and tools and background setting up (2 hr)
- Brainstorming potential frontend features for implementation. (2hr)
- Solution design report finalize (1 hr)
- Find more datasets for training the model. (2 hr)

Plans for the Coming Week:

- Detailing potential features navigating at front-end
- Research for backend

Issues:

- None

Antony Batres

This week:

- Create and Finalize Project Proposal Document (2 hr)
- Research and collect datasets to test and train our model (2 hr)
- Research possible alternatives to categorizing datasets (1 hr)

Plans for the Coming Week:

- Continue finding more datasets to fine-tune our current model.
- Research and develop strategies to handle data as well as documenting possible risks and dependencies that may come.

Issues:

- None

Anish Sivakumar

This week:

- Had a meeting with the front-end team to develop a thorough solution design that outlines all aspects of the project, from planning to the final product. (2 hr)
- Brainstormed potential technologies and frameworks that can be used as we progress further into the project. (2 hr)
- Finalized the solution design and made a flowchart with the front-end team to better visualize the tasks to be accomplished from start to finish. (1 hr)
- Spent more time looking for potential datasets that could be used for the model. (2 hr)

Plans for the Coming Week:

- The main focus is still the same, which is the front-end portion, and more research will be done for the back-end (i.e. potential technology stacks, integration with the API and front-end, etc.) in the coming weeks.
- I would like to draft out a potential UI for the webpage that will include important information regarding the disaster data aggregated from Twitter (i.e. the category of the disaster, the scale of the disaster, the model's accuracy, etc.)

Issues:

- None

Uday Vasepalli

This week:

- Participated in a meeting with other members of the group in order to develop and finish the document for the project proposal. (2 hr)
- Gather datasets to test and train our model. (1 hr)
- Explore potential alternatives for analyzing datasets. (1 hr)

Plans for the Coming Week:

- Continue to seek out additional datasets that may help us in improving our current model.

Issues:

- None