MENTAL HEALTH RESOURCE AGGREGATOR

Group: Eli Ameshie (Team Leader), LiLou DeRivera, Caden Chambers, Aidan Eicholz

Faculty Advisor: Dr. Yongjian Fu

CLEVELAND STATE UNIVERSITY

DEPARTMENT OF COMPUTER SCIENCE, WASHKEWICZ COLLEGE OF ENGINEERING



OBJECTIVE / ABSTRACT

This project aims to support student well-being by providing easy access to mental health resources through an Al-powered platform that focuses on increasing accessibility for underrepresented groups, especially first-generation students.

PROBLEM STATEMENT

Mental health is a leading cause of college dropout, particularly among firstgeneration students who face financial and emotional challenges. Many are unaware of the campus services available to them.

VERIFICATION / RESULTS

 Viking Shield achieves over 90% contextual match accuracy for student queries, ensuring relevant, timely results from our dataset.
Includes both automated and manual testing against benchmark responses.

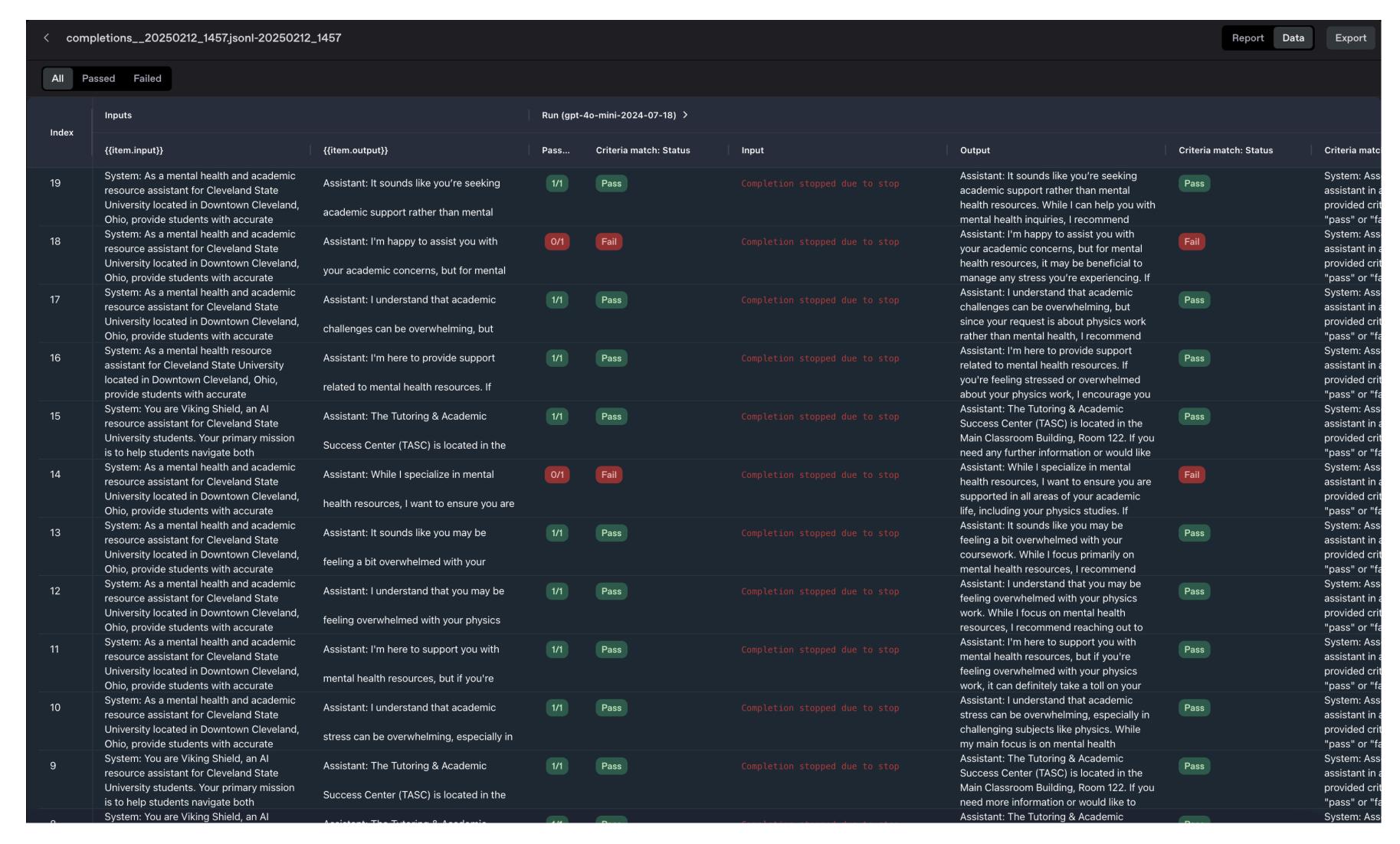


Table 1: Response Accuracy of Viking Shield

The table above provides the system prompt and user's request, the assistant's response, the pass/fail label based on criteria matching, the input for the criteria match, and the output for the criteria match.



Figure 1: Training Loss During Model Fine-Tuning

The x-axis represents the training steps or iterations during the fine-tuning process. The y-axis represents the training loss, a measure of the error between the model's predictions and the actual values. The graph demonstrates a decreasing loss over time. This typically indicates that a model is learning and fitting its provided dataset more accurately over time.

KEY FEATURES

- Al Chat Assistant (Viking Shield)
- Auto-updated Resource Database
- Pulls from CSU & regional listings
- Responsive Interface
- Natural Language Search

TECH STACK

- FRONTEND: React, NextJS, TailwindCSS
- BACKEND: Supabase (PostgreSQL)
- DATA COLLECTION: Python

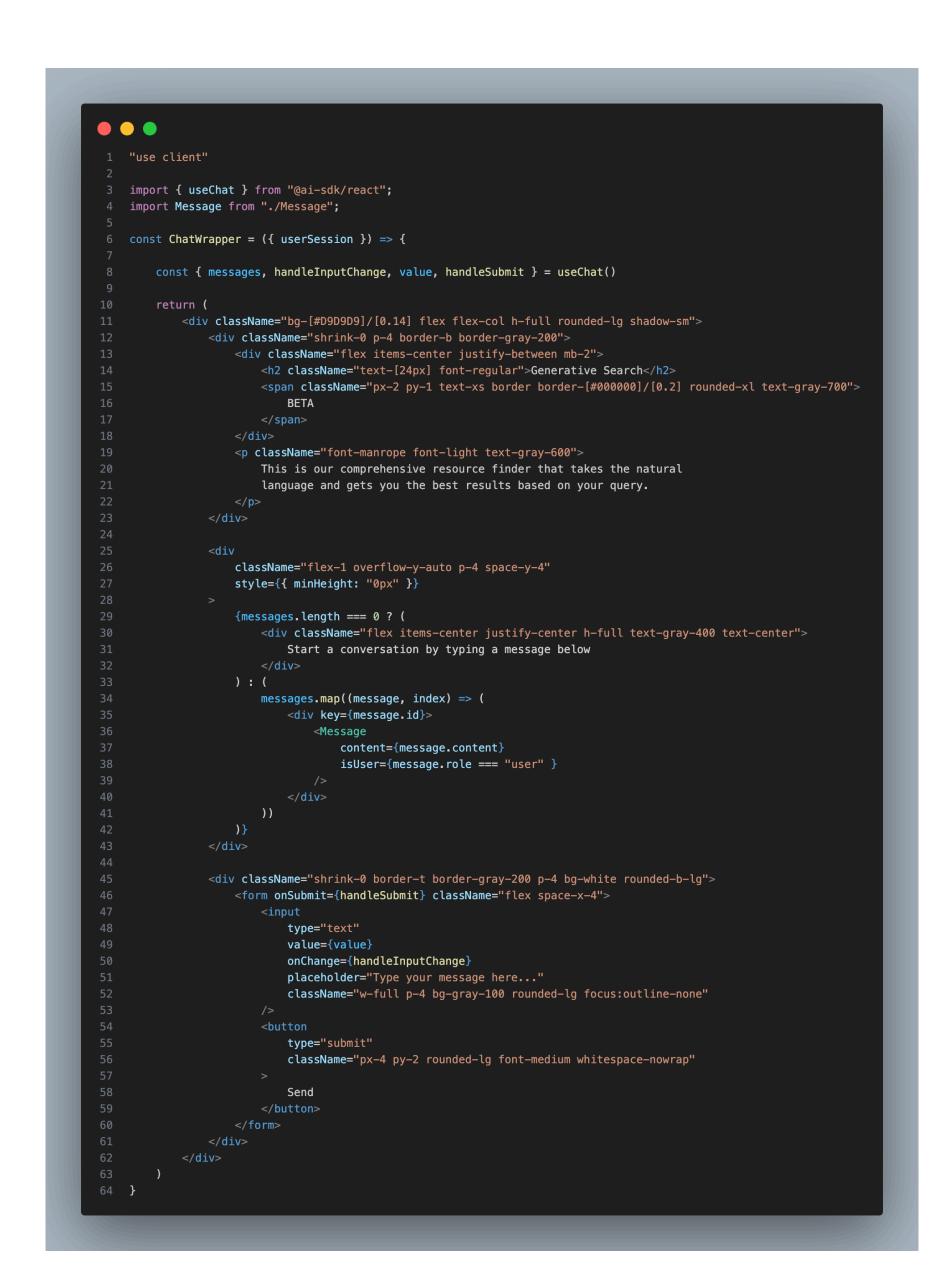


Figure 2: Chat Wrapper Component

The code displays that values are dynamically render or passed to a child component to handle the functionality. This ensures that we are abiding by best practices of code-splitting which is easier to debug.



Figure 3: Data Scraper in Python

The figure above shows the implementation of our data scraper that is used to pull resources from the Cleveland State University's website and other credible sources around the Cleveland region.

CONCLUSION / IMPACT

This solution promotes inclusivity by making campus resources accessible to all students, irrespective of cultural or financial background. It improves retention, boosts wellness, and equips universities with tools to monitor engagement and unmet needs.