**EE/CprE/SE 492 WEEKLY REPORT 1**

End of 491 – 01/30/2025

**Group number:** 35

**Project title:** Universal Response Engine: LLMs for Good

**Client &/Advisor:** Ahmed Nazar and Mohamed Selim

**Team Members/Role:**

Abrahim Toutoungi - Stakeholder Liaison

Gabriel Carlson - Communications Manager

Halle Northway - Meeting Coordinator

Brianna Norman - Project Deliverables Manager

Ellery Sabado - Timeline Coordinator

Emma Zatkalik - Assignment Manager

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Weekly Summary

This week, we were tasked with doing research on datasets for our LLM and finding additional resources to help our chatbot provide relevant information to users. We also began working on a two-week-long task to exhaust the finetuning approach with our model. Once we get that complete, we wil make the final decision to choose whether we will use finetuning or retrieval augmented generation for our LLM. No changes were made to our project.

Past Week accomplishments
- Split into groups to try fine-tuning one last time
- Planned for the upcoming weeks to make sure we finish on time

Pending Issues
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Individual Contributions

| Name | Individual Contributions | Hours this week | Hours cumulative |
|------|--------------------------|-----------------|------------------|
| Abrahim Toutoungi | - Worked on developing fine-tuning model with large dataset <br> - Looked into resources to train the model on <br> - Read about langchain webbaseloader | 6 | 63 |
| Gabriel Carlson | - Worked on fine-tuning the BERT Google model for Sequence classification | 6 | 57 |

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|---|---|---|---|
| | - Used 40,000 rows of yelp-reviews labeled dataset and 5000 evaluation rows to train and evaluate BERT llm | | |
| Halle Northway | - Reviewed fine-tuning progress from last semester<br>- Analyzing datasets to use for fine-tuning evaluation | 5 | 62 |
| Brianna Norman | - Collecting datasets to refine on<br>- Starting fine-tuning evaluations | 5 | 62 |
| Ellery Sabado | - Started collecting datasets for finetune exhaust assignment<br>- Look at little in Llama Indexing<br>- More Fine-tune evaluation | 6 | 63 |
| Emma Zatkalik | - Began testing finetuning approach on a large dataset<br>- Dataset research | 6 | 63 |

Comments and extended discussion (optional)
N/A

Plans for upcoming week
- Continue dataset research
- Continue finetuning experimentation

Summary of weekly advisor meeting
- Ella joined the meeting
  - [ellarekow@gmail.com](mailto:ellarekow@gmail.com)
  - [ellarekow@pm.me](mailto:ellarekow@pm.me)
  - Works for Collins in requirement verification and testing
  - Has a TikTok with 92k followers educating people on how to code
  - She reached out to smaller groups/resources to make sure that they wouldn't suddenly traffic hate
- Talked about vetting sources for web scraping
- **UNPFA** has a list of international resources
- Given the user prompt, which data registry are you going to access to return relevant resources
  - Using some local resources like the Red Shirt Foundation
- Get data to show that we assessed fine-tuning and determined RAG to be better