Name: Jake Brulato
Date: 20th March, 2025
Project Title: Prompt Engineering and Framework Conversion for MRM
Mentor and Company: Anwesha Bhattacharyya, Wells Fargo
Period Covered: 01 Mar – 21 Mar 2025

Project Objective: Developing a centralized repository of tailored prompts for Large Language Models, specifically optimized for the DSAI team within Wells Fargo's MRM sector, incorporating a ReAct (Reason + Action) framework for open-source LLMs after prompt hub creation.

Progress Summary:

Work Completed:
- Task 4.3 Add ReAct to Loan Harmonization Models (In-Progress/Delayed)
  - Summary:
    - Use RAG for text extraction from fed files through previous outputs, ensuring critical thinking and iteration.
    - Limit metadata and Loan Harmonization content, which currently cause overly long outputs, jargon, and hallucinated answers.
    - Fix the stripping issue so only the final answer appears, along with necessary thought process and model details.
  - Lessons Learned:
    - Model selection is crucial for the task and for managing the number of tokens in a single context.
    - Rewrite existing functions specifically for the online environment.
    - Annotate all functions for line-by-line clarity, ensuring others can easily follow the documentation.
  - Risk & Mitigation:
    - Risk: Technical limitations may arise during the transition to the new online environment, with limited tokens potentially restricting ReAct demonstrations.
    - Mitigation: Provide a smaller version of the Loan Harmonization Project document to showcase generative capabilities and give users a general framework.
- Task 6. Present Findings on Generative Models in AIA Seminar (Complete)
  - Summary:
    - Presented refined PowerPoint the proper guidelines and functionality of core models used in the prompt hub.
    - Example outputs illustrating model performance differences to help validators or coworkers select the most suitable model.
  - Lessons Learned:
    - Other participants had many questions about the multimodal capabilities of the models presented, as well as potential use cases in their project.

- Long project timelines at Wells Fargo meant many users were unfamiliar with these models, making them valuable for research.
  - o Risk & Mitigation:
    - Risk: Participants only have preliminary information with one streamlined PowerPoint might not be enough to give full insight into the models.
    - Mitigation: Created a more in-depth and technical PowerPoint with benchmark knowledge and additional information for users. Added it along with a link to the Prompt Hub on the streamlined presentation and internal wiki.

Work Scheduled Next Sprint
- Task 7. Setup Documents for Other Users
  - o Annotate all documents for users after my time at Wells Fargo ends if my project is continued for research or implementation.
- Risk & Mitigation:
  - o Risk:
    - Incomplete, outdated, or unclear documentation could leave future team members uncertain about how to continue, modify, or troubleshoot the project.
    - Documents might be improperly stored or inaccessible, risking loss of critical information once you are no longer available to clarify.
  - o Mitigation:
    - Develop comprehensive step-by-step guides that include context, references, snippet code, data storage details, and any relevant permissions or access protocols.

Work Package Updates:

	WP	Work Package Title	Scheduled Dates	Status
✓	1.	~~Onboarding~~	~~28th Oct – Nov 22nd~~	~~Complete~~
✓	2.	~~Testing performance of Large Language Models and Configuration~~	~~Nov 25th – Dec 13th~~	~~Complete~~
✓	3.	~~Creation of Prompt Hub for DSAI and MRM~~	~~Dec 16th – Jan 30th~~	~~In-Progress~~
✓	3.1.	~~Research Model Specifications and Prompting Techniques~~	~~Dec 16th – Dec 18th~~	~~Complete~~
✓	3.2.	~~Testing Prompts around research~~	~~Dec 16th – Dec 20th~~	~~Complete~~
✓	3.3.	~~Creation of Prompt Hub~~	~~Dec 18th – Dec 30th Jan 30th~~	~~Backlog~~
	4.	Implement ReAct Framework	Jan 1st – Mar 28th	In-Progress
✓	4.1.	~~Meet with Team to Discuss ReAct for Loan Harmonization~~	~~Jan 13th – Jan 17th~~	~~Complete~~
✓	4.2.	~~Building ReAct and Testing with Public Data~~	~~Jan 6th – Jan 17th Feb 16th Feb 22th~~	~~Complete~~

	4.3.	Add ReAct to Loan Harmonization Models	Jan 17th – Mar 28th	In-Progress
✓	~~5.~~	~~More Generative Model Development~~	~~Jan 28th – Mar 28th~~	~~Complete~~
✓	~~5.1.~~	~~Research Chat Template for Visual/Large Language Models~~	~~Jan 31st – Feb 5th~~	~~Complete~~
✓	~~5.2.~~	~~Testing of Visual Capabilities and Text Generation~~	~~Feb 5th – Feb 14th~~	~~Complete~~
✓	~~6.~~	~~Present Findings on Generative Models in AIA Seminar~~	~~Feb 28th – Mar 13th~~	~~Complete~~
	7.	Setup Documents for Other Users	Mar 18th – Mar 28th	In-Progress