1. Projected Start Date: 10/28/2024

Projected End Date: 03/28/2025

1. Describe your role as an intern

I will be a part of the Decision Science and Artificial Intelligence (DSAI) team at Wells Fargo. My responsibilities include research, model development, experimentation, and result analysis for risk of models used internally. Additionally working with GenAI and LLMs that are reviewed by the DSAI team.

1. Domain Problems – Questions you will be answering through the project

GenAI and LLMs is a complex landscape that any large corporation would like to get their hands in. Many possibilities lie in that prospect with the potential of great in areas like operational efficiency, potential thought innovation, cost reduction, and risk management. The project will help in answering these questions:

1. "How can you create a collection of prompts to effectively test the capabilities of LLMs on fundamental tasks?"
2. "How can you research and consolidate the best prompting guidelines for different models in one place to enhance prompting practices?"
3. “How does ReAct (stands for **Reasoning + Acting**, is a framework for large language models (LLMs) that combines **reasoning** (logical deduction or thought processes) and **acting** (taking specific steps based on that reasoning). This approach enables LLMs to reason through tasks while also interacting with tools or environments to achieve goals.) address issues of hallucination and error propagation in chain-of-thought reasoning, and how does it improve interpretability and performance on interactive decision-making benchmarks like ALFWorld and WebShop?”
4. Does your problem involve healthcare data?

No

1. If yes, please briefly explain the nature of the data.

I am not working with healthcare data

1. Tasks Performed & Project Deliverables

* Creating a prompt hub where a collection of useful prompts to test the capabilities for each LLM, primarily researching best prompting guidelines and documentation for my research. Primarily will be reported on Wells Fargo internal wiki and a presentation to the team.
* Using the created prompt hub, introduce and explore ReAct (Reason + Action) Framework to overcome hallucinations all in python notebooks with documentation and a consolidated final report. This will also be presented to the team members and the group leader.

1. Timeline for the Project

The timeline is flexible based on the progression of tasks, a rough timeline:

Part 1: Onboarding and Access Preparation (Oct 28th – November 14th, 2024)

1. Complete onboarding processes required by corporate policy.
2. Introductions to Mentor, Manager, and Primary Systems.
3. Reading more about specific team’s deliverables and structure.

Part 2: Project Introduction and Initial Proposals (November 19th – November 29th, 2024)

1. Introduction to project for GenAI and LLM Models
2. Look at verified Wells Fargo LLMs for deployment and create a structure proposal for prompt hub.
3. Access LLMs in online Python compute engine and start working to create prompt hub

Part 3: More Instruction Tuning, Engineering, and integrating ReAct (Dec 2nd ,2024– Mar

28th , 2025)

1. Finish Prompt Hub (if not completed) and start researching Chain-of-thought prompting and action plan generation.
2. Introduce and read more about ReAct and its two interactive benchmarks.
3. Mimic a similar setting for Wells Fargo and establish the framework for internal cases.

Part 4: Completing ReAct and Final Presentations (Jan 20th – Mar 28th, 2025)

1. Complete ReAct for internal models and start consolidating final research presentation.
2. Tweak any findings for presentation to the NLP team either the third or fourth week of March.
3. Tools to be used during internship
   1. SAS
   2. Python
   3. R
   4. SQL
   5. Tableau/PowerBI
   6. Java
4. Other Tools/Languages to be used:

Internal tools, Excel, Spark, Primarily Python

1. Type of internship:

Paid

1. Is the internship at your current place of employment?

Yes

1. Is your current manager, your mentor?

No

1. Mentor Name:

Anwesha Bhattacharyya

1. Mentor Phone:

7347304319

1. Mentor Email:

anwesha.bhattacharyya@wellsfargo.com

1. Mentor Title - Please include mentor's qualifications & their role in supervising this project.

Lead Quantitative Specialist will be supervised by another team member that will be my direct supervisor for the project. Both of which are considered Senior Quantitative Analytics Specialists for Corporate Risk.

1. Name of Organization/Company:

Wells Fargo

1. Company Address:

401 S Tryon St, Charlotte, NC 28202

1. Where is the internship?

Hybrid

1. Please share the physical/postal address where you will be working. If you are a remote intern.  Please put the location you will be physically working from below (even if it is your home).

401 S Tryon St, Charlotte, NC 28202