AI / ML Internship Assignment

Objective

Building an AI agent system to guide travelers with their travel plans/inquiries and finally help them generate a personalized travel itinerary

Scenario

You are building an AI-powered travel planner that provides users with highly personalized travel itineraries. Your task is to prototype an AI-agentic system for this use case and write appropriate prompts that can simulate a conversation to gather user preferences, use a web-search tool to curate and suggest relevant items, and finally generate a detailed travel itinerary. Host your application on any free hosting provider like streamlit, gradio, etc for user testing.

Task Instructions

Step 1: Understand The User Context

1. Go through the user messages for inputs such as:
   a. Budget
   b. Trip Duration or Travel Dates
   c. Destination & Starting Location
   d. Purpose
   e. Preferences
2. Your goal is to:
   a. Extract key details from the user.
   b. Chain prompts effectively to refine inputs if needed.
   c. Generate a coherent, day-by-day itinerary.

Step 2: Build Your Prompt System

1. Input Refinement: Create a system prompt to gather or clarify additional details from the user, such as:
    a. Dietary preferences.
    b. Specific interests within the given preferences.
    c. Walking tolerance or mobility concerns.
    d. Accommodation preferences (luxury, budget, central location, etc.).
2. Activity Suggestions: Use web-search tools, with chained prompts if required, to:
    a. Generate accurate up-to-date suggestions for top attractions or activities at the provided destination locations.
    b. Align and contextualize these suggestions with user preferences (e.g., "Hidden Gems").
3. Output: Finally once the suggestions are approved and the user requests a detailed itinerary, design the final prompt that generates a complete, well-structured n-day itinerary, with a logical grouping and timing of sightseeing and other activities for each day

Step 3: Deliverables

- Submit the final set of prompts you used. Label each as System Prompt, User Prompt, and Model Response.
- Submit some sample inputs and outputs:
    - Some curated suggestions for the provided user inputs
    - A detailed day-by-day itinerary for the provided user scenario.
- Document your process in a short paragraph for each prompt:
- Host the application on any free hosting service such as streamlit, gradio, etc, and submit the link to test the live application.

Bonus Challenge (Optional)

Improve the itinerary by allowing for flexible input formats. For example:

- If the user says, "I have a moderate budget and I want a mix of famous and offbeat places," refine it to generate precise suggestions.
- Handle vague or incomplete inputs and prompt the user to clarify them.

Evaluation Criteria

- ➢ Prompt Design
    - Are the prompts clear, specific, and structured to guide the model effectively?
    - Do they ensure relevant outputs?
- ➢ Prompt Chaining
    - Are you using multiple prompts strategically to refine responses?
    - Do the prompts maintain a coherent flow?
- ➢ Personalization
    - How well does the output align with the user's preferences?

○ Are the results unique and well-suited for the user scenario?
➢ Documentation
○ Are you explaining your reasoning and thought process effectively?

Estimated Time

You should ideally spend not more than the suggested time on each activity of the assignment.

- Prompt Design & Testing: 3-4 hours
- AI agent design: 3-4 hours
- Hosting: 1-2 hours
- Documentation: <1 hours