

Project Title: Culturally-Aware Agentic Framework for Psychiatrists Training

Project Description:

This research project aims to develop a culturally-aware agentic AI framework to support the training of psychiatrists. The system will consist of two core components:

- **Patient Simulator** – An AI agent that simulates patients presenting mental health conditions within culturally relevant contexts, particularly reflecting challenges and backgrounds in Arab and Muslim communities.
- **Evaluation Agent** – An AI evaluator that analyzes the psychiatrist's intervention and provides structured feedback, including: recommended alternative actions, suggested therapeutic content, strengths and weaknesses in the doctor's approach, cultural sensitivity assessment.

The project focuses on integrating large language models (LLMs), agentic architectures, and culturally grounded reasoning to build a safe and educational simulation environment.

Project Type: Research

Internship Batch: Batch 1: May 10 to July 9, suitable for Education City students, i.e., CMUQ, TAMUQ and HBKU students

Duties/Activities:

- **Data Collection & Curation:**
 - Synthesize patient profiles from Islamic forums reflecting mental health issues
 - Curate culturally aware and context-sensitive treatment strategies grounded in psychological and psychiatric literature.
- **User Simulator Design:**
 - Design and implement a configurable user simulator
 - Model diverse disorders, personalities, and socio-cultural backgrounds relevant to the Arab/Muslim world.
- **Agentic Interview Framework:** Develop and implement an evaluation agent that:
 - Assesses clinical decision-making
 - Provides feedback on the doctor performance
 - Suggests alternative interventions when appropriate
- **Evaluation & Analysis**
Design evaluation metrics to assess the quality, completeness, and consistency of extracted roadmaps.

Required Skills:

- Strong programming skills (Python preferred)
- Experience working with Large Language Models (prompting, APIs, or fine-tuning)
- Familiarity with basic machine learning concepts

Preferred Intern Academic Level: Junior, Senior undergraduate or Master student

Learning Opportunities:

- Interns will gain hands-on experience in:
 - Designing agentic AI systems
 - LLM-based system development
 - Research methodology and experimental evaluation
- High-performing interns may contribute to:
 - A conference paper submission

Expected Team Size: Up to 5 interns (team-based projects encouraged)

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