Project Title

Talk with Fanar: A Multimodal Spoken Dialog System

Project Description: This project aims to develop a cutting-edge spoken dialog system that seamlessly integrates automatic speech recognition (ASR), text-to-speech (TTS), emotion recognition, intent classification, and large language models (LLMs) to create an engaging and adaptive conversational AI. The system will analyze users' speech, detect emotions, classify intent, and generate human-like responses, providing a natural and intuitive interaction experience. This project will focus on building a robust spoken language understanding pipeline that enhances user engagement and contextual understanding in spoken conversations.

Project Type: Research and Engineering

Internship Batch:

✓ **Batch 1:** May 11 to July 10, suitable for Education City students, i.e., CMUQ, TAMUQ and HBKU students

✓ **Batch 2:** May 25 to July 24, suitable for QU university students

Duties/Activities:

1. Implement intent classification models to enhance user interaction
2. Integrate state-of-the-art speech and NLP models to the system.
3. Assist in data collection and annotation for emotion and intent classification.
4. Develop a web-based or mobile application interface for user interaction.

Required Skills:

1. Programming: Python (with PyTorch), HTML, CSS, JavaScript (React), and backend frameworks like Flask or FastAPI
2. Web/App Development: Full-stack development for building interactive, responsive platforms
3. Arabic Language Knowledge: Understanding of Arabic phonetics and linguistics (is preferred but not required)

Preferred Intern Academic Level:

- Undergraduate (Senior or 3rd year / can be part of your senior year project) in Computer Science/Engineering

Learning Opportunities:

- Gains hands-on experience in speech and NLP technology
- Expose to cutting-edge research in conversational AI
- Potential for research publication or open-source contribution

Expected Team Size: *2-3 interns*

Mentor

Name: Dr. Shammur Chowdhury   email: shchowdhury@hbku.edu.qa