CS 6320 NLP Project Proposal

Team member

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Overall goal:

The goal of this project is to build an NLP-powered chatbot that provides personalized health advice, including exercise and diet plans, based on user-specific data such as body weight, exercise habits, and dietary preferences.

Scope:

We will develop a limited prototype that can:

- Understand user inputs related to health, exercise, and diet.
- Offer tailored fitness routines and meal recommendations.
- Use external APIs for accurate advice, such as Spoonacular API (for recipes and nutrition), Fitbit API (for exercise tracking).

Task:

Qin Qin

- Implement and fine-tune models to detect user intents such as requesting diet plans, exercise plans, or general health advice.

Jilei Sun

- Design a conversational flow that tracks user context across interactions, ensuring personalized, multi-turn conversations using OpenAI API.

Yu Liang

- Build a recommendation engine that generates personalized health advice in natural language using OpenAI GPT models and summarization techniques.

Data Sources:

- Spoonacular API: For meal and nutrition data.
- Fitbit API: For exercise and health data.
- NLTK: For initial text processing.
- OpenAI API: For advanced NLP tasks like intent detection and conversation management.