LLM Bootcamp Capstone Project Ideas

Idea1: Health Assistant

Overview:

Our group would like to build a personal assistant with a focus on health. The assistant would use an LLM to assist users with health-related queries, monitor personal health trends, send reminders, and provide information or advice.

Features & Functionality:

Symptom Checker:

- Users could message symptoms to the health assistant, and the LLM could provide preliminary analysis, suggesting possible causes (e.g., "I have a headache and fever."). The assistant could ask follow-up questions to refine its responses. It could suggest actions like "drink water," "rest," or "consult a doctor."

Health Data Tracking:

- Users can manually input data like heart rate, blood pressure, weight, glucose levels, or diet information and the assistant could monitor trends over time. The LLM could provide insights based on patterns (e.g., “Your blood pressure has been steadily increasing. Would you like tips for managing it?”)
- Users can also upload images from:
    - health apps for the assistant to interpret data and provide suggestions
    - Food images for the assistant to interpret data and provide nutrition information
    - Screenshots of articles for interpretation
- Integration with health APIs (like Fitbit or Apple Health) could allow automatic updates.

Reminders and Notifications:

- Users could set reminders for medications, doctor appointments, exercise, or hydration. The assistant could send proactive messages like "Time to take your medication" or "Don’t forget to walk today."

Speech to Text Support

The users can interact with the assistant via text or voice

Stretch goals

Personalized Health Tips:

Based on user data and health profiles, the assistant could offer tailored suggestions (e.g., diet tips, exercise routines, or sleep improvement strategies). It could provide wellness content, such as how to manage stress or improve sleep quality.

Integration with WhatsApp/ Twilio:

Most users are familiar with WhatsApp, making the service accessible without needing a separate app. Integrating a health assistant into it would feel seamless and natural.

Idea2: Meeting Recording Summarizer & Q&A System

Overview

In order to help quickly understand both the visual content and spoken discussion during a meeting. We want to build a meeting assistant that leverages large language models (LLMs) and computer vision to **summarize meeting recordings, interpret visuals, and answer follow-up questions** related to the meeting. This system would significantly reduce the time needed to review long meetings, improve post-meeting productivity, and enable team members to focus on actionable insights.

Key Features and Functionality

Automatic Meeting Recording Summarization

- Automatically processes meeting audio/video recordings & generates concise summaries highlighting key points, action items, and decisions made during the meeting.
- The LLM processes spoken dialogue, identifies key themes, extracts key details and generates concise summaries and if possible video snippet (it will be a cool feature)

Visual Content Interpretation (Language + Vision Model)

- Understands and extracts meaning from images or visual content (slides, charts, and diagrams) presented during the meeting. The system can summarize or explain the visuals in the context of the discussion.
- Vision models detect and interpret the visuals, and the LLM provides explanations or context from the meeting's dialogue to integrate those visuals into the summary.

Interactive Q&A System

- Post-meeting, users can ask questions about the meeting content (e.g., "What was the final decision on the project deadline?" or "Can you explain the chart about sales growth?") and receive responses from the assistant.
- The LLM is trained to retrieve specific information from the summarized meeting data or the full transcript

Integration with Common Meeting Platforms

- Integrates seamlessly with popular meeting tools such as Zoom, Google Meet, Microsoft Teams, etc., to process meeting recordings
- The LLM analyzes the meeting transcriptions and visual content post-recording and runs the summarization/Q&A tasks.

Searchable Meeting Archive

- Creates a searchable archive of meeting summaries and transcripts, allowing users to quickly locate specific meetings or topics discussed over time.

- The LLM helps index the content semantically, ensuring that searches retrieve relevant snippets from both the verbal and visual data.

Extended Functionality (Maybe Idea 3, Need Feedback):

We want to extend the meeting summarization to longer events recording like conferences that include multiple speakers and presentations. As an example

AI Engineer World Fair in SF

This would have the same features as the meeting assistant above that summarizes the event, includes a chat interface to answer questions about the event, interprets visuals/ charts.