Dear Chinedu,

To further evaluate your skills and alignment with the role, I'd like to propose a coding task. Please create a GitHub repository with a codebase that fulfills the following requirements:

1. LLM Model Server:

Set up a server environment (e.g., using Flask, FastAPI) to host and run the LLAMA model using other tools that might be be required as well.

Ensure the server can efficiently handle incoming requests and provide responses from the LLM model.

Consider memory management and optimization for running the LLAMA model effectively.

2. Node.js API Interaction:

Develop a Node.js application that can send text-based prompts or requests to the LLM model server via API calls.

Handle API responses, including potential errors, and integrate the LLM model's output into the application's logic.

3. Server Control:

Implement a simple script or command (e.g., Bash script, npm command) to start and stop the LLM model server with a single click or command.

Ensure the script gracefully handles server shutdown and resource cleanup.

4. Image Analysis and Report Generation:

Image Upload and Preprocessing: Allow users to upload X-ray images through a web interface or API. Implement image preprocessing techniques (e.g., resizing, normalization) as needed.

LLM Model Integration: Send the preprocessed image data to the LLM model server for analysis.

Report Generation: In addition to other tools like tensorflow, pytorch etc, use the LLM model's output to generate a comprehensive and detailed medical report for doctors.

Report Structure: The report should include relevant findings, potential diagnoses, and any recommended next steps.

5. Conceptual Video:

Create a video (5-10 minutes) explaining:

The overall architecture of your application.

How the LLM model is integrated and used for image analysis.

The key challenges you faced and how you addressed them.

Deadline: March 10th

Please let me know if you have any questions about the task. I look forward to reviewing your submission.

Best regards,

Williams Isaacj