AI Engineer Assignment

Chatbot for Gynecological Education

1. **Objective:**

   The goal of this assignment is for you to design and implement a conversational AI chatbot that educates patients about gynecological conditions

   Requirements

- The chatbot should be able to answer common questions on the selected condition/s, offer information on treatment options, and explain medical terms in an easy-to-understand manner.
- The chatbot should be user-friendly and capable of delivering accurate, reliable, and relevant information to patients.
- As with all chatbots, this chatbot should be able to understand user questions phrased in various ways and provide relevant answers using an NLP-based model.
- Optional - You can consider adding multi language support and patient feedback loop

2. **Decisions we encourage you to make as you build the chatbot**

   Focus Area : You can choose to make the chatbot generic to all gynecological conditions or focus on a selected condition e.g. PCOS, infertility, pregnancy etc.

   Knowledge Base : Decide how you would like to access the data that you use for training the model and how you source it. Please use open source, publicly available data without any copyrights.

   Choice of models : You can use pre-trained models or build custom NLP pipelines or mix the two. Choice is yours

   Interface: While a simple command-line interface is acceptable, you can chose to create a simple web interface (e.g., using Flask or Streamlit) where users can interact with the chatbot.

3. **Deliverables**

   Prepare a Github repository including the following

   - Well structured codebase with separate scripts and comments for major functionalities eg data preprocessing, jupyter notebooks used for experimentation, main file to execute the chatbot, dockerfiles if containerized, deployment code if webapp is created etc.
   - Virtual Environment Requirements
   - Dataset created for the analysis
   - Showcase the evaluation metrics and results - accuracy, loss curves, etc.
   - Readme file with project overview and instructions

4. Evaluation Criteria

- Modularity of codebase and data preprocessing techniques used
- Scalability of the solution including environment, LLM/NLP framework, libraries etc.
- Logical reasoning - Reasoning for the choices you make in section 2
- Accuracy - The chatbot's ability to correctly understand and respond to questions
- Error Handling - How does the chatbot handle questions it is not equipped to handle
- Documentation - Your approach and best practices to documentation