**TalentScout Hiring Assistant Chatbot**

**Project Overview**

The TalentScout Hiring Assistant Chatbot is a Streamlit-based application designed to streamline the initial screening process for technology-focused recruitment. By leveraging a Large Language Model (LLM) from ChatGroq, the chatbot interacts with candidates to:

1. Collect essential details such as name, contact information, experience, and tech stack.
2. Generate tailored technical interview questions based on the candidate’s specified tech stack.
3. Provide a seamless and user-friendly experience for both candidates and recruiters.

**Features**

**1. User-Friendly Interface**

* Clean and intuitive UI developed using Streamlit.
* Easy-to-use forms for candidates to input their details.

**2. Automated Information Gathering**

* Collects essential candidate details, including:
  + Full Name
  + Email Address
  + Phone Number
  + Years of Experience
  + Desired Position
  + Current Location
  + Tech Stack

**3. Technical Question Generation**

* Dynamically generates 3-5 technical interview questions tailored to the candidate’s declared tech stack using the ChatGroq LLM.
* Ensures relevance and alignment with the specified technologies.

**4. Graceful Exit**

* Allows candidates to end the chat session with a message of encouragement and information about the next steps.

**Technical Specifications**

**1. Technologies Used**

* **Programming Language:** Python
* **Libraries:**
  + Streamlit: For the frontend interface.
  + ChatGroq: LLM integration for generating dynamic responses.
  + Transformers: Backend LLM processing.
  + Torch: Required for LLM computations.

**2. Deployment**

* Local deployment using Streamlit.
* Optional enhancements for cloud deployment (AWS, GCP, etc.) to provide a live demo.

**Installation Instructions**

1. Clone the Repository:
2. git clone <repository-url>
3. cd <repository-folder>
4. Install Required Libraries:
5. pip install -r requirements.txt
6. Run the Application:
7. streamlit run <filename>.py

**Usage Guide**

1. Launch the chatbot application locally or via a hosted platform.
2. Fill in the required candidate information in the form.
3. Submit the form to receive a candidate summary and technical interview questions.
4. End the session by clicking the "End Chat" button.

**Prompt Design**

* **Greeting Prompt:** Sets the tone by explaining the chatbot’s purpose.
* **Information Gathering Prompts:** Collects detailed candidate information in a structured manner.
* **Technical Question Prompt:** Dynamically generates relevant questions based on the declared tech stack.

Example Prompt:

You are an interviewer. Generate 3-5 technical interview questions for the following tech stack: {tech\_stack}.

**Challenges and Solutions**

1. **Handling Diverse Tech Stacks:**
   * Crafted prompts to adapt dynamically to various technologies.
   * Ensured LLM output remained relevant and specific.
2. **Error Handling:**
   * Implemented fallback mechanisms for unexpected inputs or API failures.
3. **User Experience:**
   * Designed a simple yet effective UI for ease of interaction.

**Optional Enhancements**

* **Advanced Features:**
  + Sentiment analysis to gauge candidate emotions.
  + Multilingual support for broader usability.
  + Personalized responses based on user preferences or history.
* **UI Enhancements:**
  + Improved styling and interactive elements for a better user experience.
* **Performance Optimization:**
  + Ensured quick response times and the ability to handle concurrent users efficiently.

**Conclusion**

The TalentScout Hiring Assistant Chatbot provides a robust and efficient solution for initial candidate screening. By automating key processes, it saves time for recruiters and ensures a professional and engaging experience for candidates. Further enhancements can make it a comprehensive tool for modern recruitment needs.