Artificial Intelligence Engineer Intern

Assignment Overview:

Objective: The objective of this task is to evaluate the candidate's proficiency in Python, API usage, NLP fundamentals, sentiment analysis, and data visualization by developing an interactive program that generates responses based on user input, performs sentiment analysis on the generated text, and creates reports with data visualization.

Task Description: Develop a Python program that interacts with the user, generates responses based on user input using OpenAI's GPT-3 model via the Hugging Face API, performs sentiment analysis on the generated responses, and creates reports with data visualizations summarizing the sentiment analysis results.

1. User Interaction:

• Develop a user-friendly interface that prompts the user to input text.
• Accept user input and pass it to the GPT-3 model via the Hugging Face API to generate responses.
• Allow for multiple interactions with the user to generate a conversation-like experience.

2. Text Generation and Sentiment Analysis:

• Utilize the Hugging Face API to interact with the GPT-3 model and generate responses based on the user input.
• Perform sentiment analysis on the generated responses using a sentiment analysis library or API (e.g., NLTK, TextBlob).
• Classify the sentiment of each response as positive, negative, or neutral.

3. Report Generation and Data Visualization:

• Create reports summarizing the sentiment analysis results, including the distribution of positive, negative, and neutral sentiments.
• Generate data visualizations such as pie charts or bar graphs to visually represent the sentiment analysis results.
• Ensure the reports and visualizations are clear, informative, and visually appealing.

Evaluation Criteria:

1. User Interaction:
• Is the user interface intuitive and easy to use?
• Does the program effectively prompt the user for input and generate responses based on the input?

2. Text Generation and Sentiment Analysis:
• Are responses generated by the GPT-3 model contextually relevant and coherent?

• How accurately does the program perform sentiment analysis on the generated responses?

3. Report Generation and Data Visualization:
• Are the reports generated by the program informative and well- structured?
• Do the data visualizations effectively represent the sentiment analysis results?

Submission Guidelines:

1. Deadline: Your completed assignment should be submitted within 1 days at maximum from the date of this notification
2. Format: Please compress your .ipynb file and README documentation into a ZIP file for submission.
3. How to Submit: Share your ZIP file on LinkedIn chat or this email id: careers@aspireit.net.in

Ensure your submission file includes your full name and contact details in the README.

Evaluation Criteria:

1. **Code Clarity and Quality:** We will assess the readability of your code, adherence to coding standards, and the inclusion of meaningful documentation.
2. **API Integration and Deployment Skill:** Effective and efficient integration with external APIs and successful deployment using Docker containers.
3. **Database Integration Skill:** Ability to set up and interact with a PostgreSQL database for data storage and retrieval.
4. **Analytical Thinking:** Your ability to derive insightful analysis from the sentiment analysis results, including how you interpret the sentiment of the generated text.
5. **Execution:** The application should execute flawlessly, achieving the desired outcomes as per the problem statement.

Terms of Engagement:

- **Duration:** A 3-month tenure
- **Engagement:** Flexible scheduling, part-time, working on tasks for just 20 hours per week
- **Remuneration:** This opportunity will be unpaid, emphasizing profound learning and professional skill development with Full-Time offers ranging from 6lpa to 12lpa after completion of the Internship, which will be mentioned in the contract as well.
- **Work Environment:** Fully Remote