

Assignment Title: Custom Chatbot Development and Deployment

Assignment Description: You are tasked with creating a custom chatbot that can suggest technical courses to students based on the information available at the following link

<https://brainlox.com/courses/category/technical>

The chatbot should use OpenAI APIs or any Hugging Face model for its natural language understanding capabilities. Additionally, you will have the option to deploy the chatbot on Microsoft Azure for extra credit.

Assignment Steps:

1. Data Collection and Preparation (20 points):

- Scrape the course information (titles, descriptions, and URLs) from the provided link using web scraping tools or libraries like BeautifulSoup or Scrapy.[DON'T BE LIMITED TO THESE AND USE EVERY METHOD AVAILABLE]
- Preprocess the scraped data to ensure it is suitable for chatbot training, including cleaning and structuring the data.

2. Model Integration (25 points):

- Choose a pre-trained language model from OpenAI or Hugging Face Transformers to power your chatbot's natural language understanding.
- Integrate the selected model into your chatbot's architecture and fine-tune it if necessary for better course recommendation capabilities.

3. Chatbot Development (20 points):

- Develop a chatbot that can interact with users and understand their course-related queries.
- The chatbot should be able to suggest relevant courses based on user input.

4. Chatbot Testing (15 points):

- Test your chatbot with a set of sample questions to ensure it provides accurate course recommendations.

5. Extra Credit (15 points):

- Deploy your chatbot on cloud platform of your choice.[Preference given to Azure]

6. Presentation (5 points):

- Prepare a brief presentation (5-10 minutes) where you showcase your chatbot, discuss the technical choices you made, and demonstrate its functionality.
- Be prepared to answer questions from the interview panel regarding your approach and decisions.

Submission Requirements:

- Submit your code and any necessary files/documentation through a version control system (e.g., GitHub).
- Provide a link to the deployed chatbot (if applicable).
- Prepare a short presentation for the final interview round where you will walk the interview panel through your work.

Evaluation Criteria: Candidates will be evaluated based on the following criteria:

- Data collection and preprocessing.
- Model integration and fine-tuning.
- Chatbot development and functionality.
- Chatbot testing and accuracy.
- Deployment on Azure (if applicable).
- Presentation and ability to explain technical choices.
- IMPORTANT: THE CHATBOT UI IS NOT IMPORTANT. ITS MORE IMPORTANT TO HAVE A FUNCTIONING MODEL AND RESPONSIVE REPLIES.

Important Notes:

- You are free to choose any programming language, libraries, or frameworks for this assignment, but Python is preferred.
- Plagiarism or using pre-built chatbot solutions is strictly prohibited.
- Be ready to explain and defend your choices during the interview.

TIPS:

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