

ThinkByte Developer Interview Assignment: Web Scraping and Chatbot Development

Assignment Overview:

At ThinkByte.ai, we are constantly exploring innovative ways to use generative AI and build solutions. As part of our developer interview process, we would like you to demonstrate your skills in python and generative ai concepts.

Topics to Know and Learn:

Before diving into the assignment, familiarise yourself with the following concepts, frameworks, languages, and generative AI models:

Concepts:

- Retrieval Augmented Generation (RAG)
- Indexing
- Embeddings

Frameworks:

- LlamaIndex

Languages:

- Python

Generative AI:

- Utilise Llama Index API for the chatbot's generative responses

Task:

Your task is to develop a web scraping script to extract information from all pages of the ThinkByte.ai website using Python and BeautifulSoup. Once the data is extracted, you will create a chatbot that can provide information based on the details available on the website.

Specific Requirements:

Web Scraping:

- Utilise Python and BeautifulSoup to scrape all pages of the ThinkByte.ai website.
- Extract all relevant details and information available on each page.
- Ensure that the scraping process is efficient and comprehensive, covering all sections and categories of the website.

Chatbot Development:

- Develop a chatbot that can interact with users and provide information based on the data extracted from the website.
- Utilise the Llama Index framework for generating responses to user queries.
- Implement indexing, storage & RAG (Feel free to use anything for storage)
- The chatbot should be able to handle a variety of questions and provide accurate information in a user-friendly manner.

Submission Guidelines:

- Provide the source code of your web scraping script and chatbot implementation.
- Include detailed instructions on how to run the scripts and interact with the chatbot.
- Document any dependencies or external libraries used in your code.
- Ensure that your code is well-organised, commented, and follows best practices in coding standards.
- Submit your assignment via email or through the designated platform provided by the interviewer.

Evaluation Criteria:

Your assignment will be evaluated based on the following criteria:

- Accuracy and completeness of the web scraping process.
- Effectiveness and functionality of the chatbot in providing relevant information.
- Quality of code structure, organisation, and documentation.
- Adherence to best practices in web scraping, chatbot development, and Python programming.
- Creativity and innovation in solving the given task.

Note:

Feel free to reach out if you have any questions or need clarification on any aspect of the assignment. We encourage you to showcase your skills and creativity in completing the task, and we look forward to reviewing your submission.