Dialog Data Science Academy

Introduction to AI Application Development with ChatGPT

Capstone Project

AI APPLICATION DEVELOPMENT WITH CHATGPT ON AN EMPLOYEE HANDBOOK GUIDE

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1. INTRODUCTION

1.1 BACKGROUND

Artificial Intelligence (AI) has witnessed significant advancements in recent years, particularly in the field of natural language processing (NLP) and Large Language Models (LLMs). One promising application of AI is in the development of AI powered chatbots, which can facilitate interactive and efficient communication between users and digital systems.

This report focuses on the creation of an AI-powered Document Q&A chatbot using ChatGPT, designed to provide accurate and contextually relevant answers to queries based on an employee handbook.

1.2 OBJECTIVES

The primary objectives of this project are to,

    i.   Train ChatGPT on the content of an employee handbook to ensure accurate and relevant responses.

    ii.   Design and implement a user-friendly chatbot interface for seamless interactions.

    iii.   Provide users with quick and accurate answers to their questions from the employee handbook, if not to respond that the information is not available in the document.

1.3 PROBLEM STATEMENT

Organizations often struggle to efficiently disseminate information from employee handbooks to their workforce. Employees may have questions that require quick and accurate responses, but finding the relevant information in a lengthy handbook can be time-consuming.

This project aims to address this challenge by developing an AI chatbot that can provide instant answers to employee queries based on the content of the handbook.

2. SOLUTION

The proposed solution involves creating a document-based Q&A chatbot using ChatGPT, a state-of-the-art language model developed by OpenAI.

The chatbot will be trained on the text from the 'Alora's Collection Employee Handbook', enabling it to understand and respond to questions effectively.
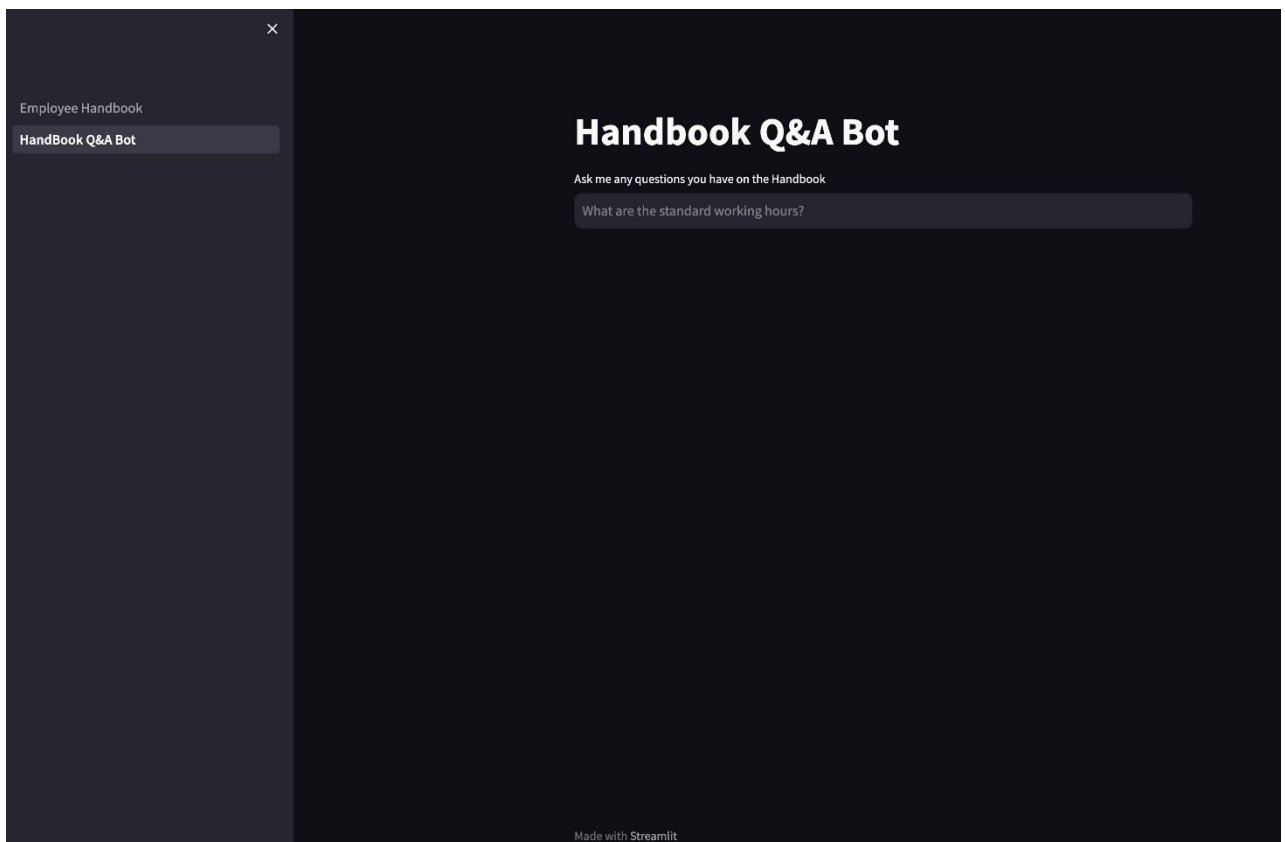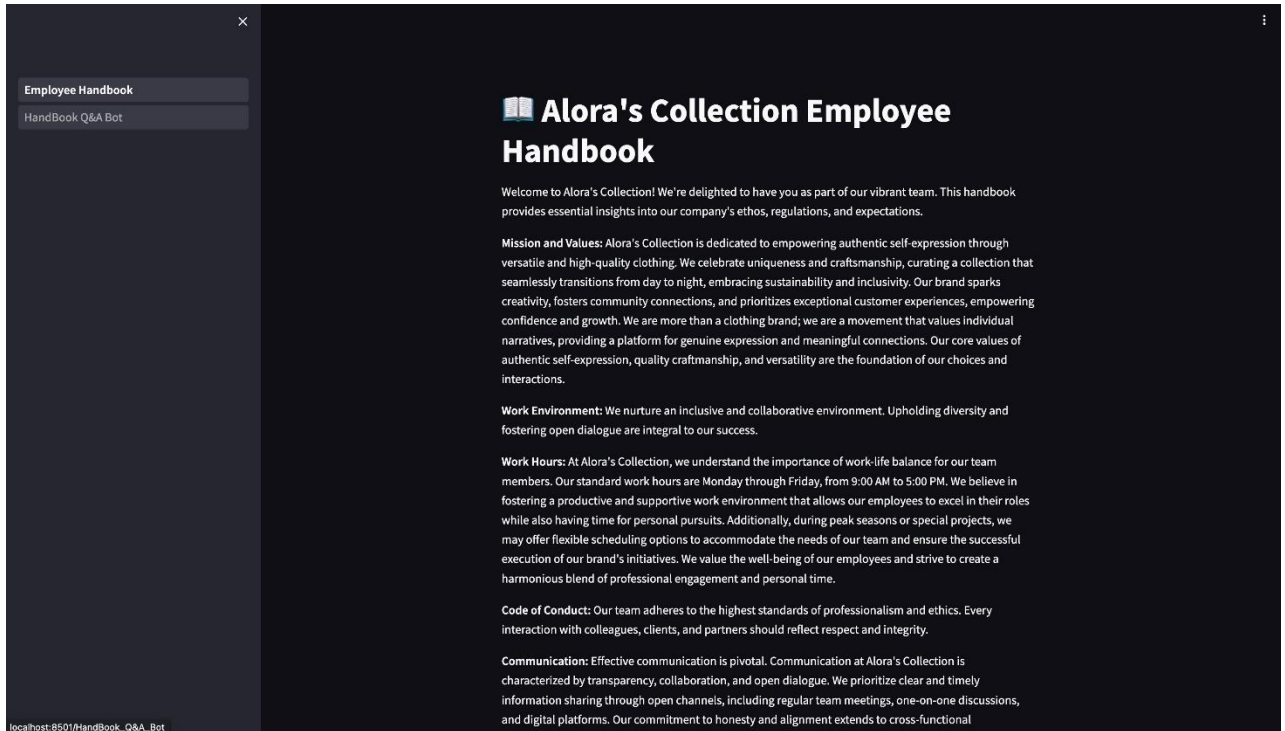
The chatbot's interface will be created using the Streamlit framework.

The development of the AI application involves the key steps below:

1. Creating Prompt template and Chain using Langchain

2. Calling the Open AI API call to get the response using ChatGPT

3. Interface Design using Streamlit framework to allow users to input their questions and receive responses.

GitHub Repository Link to code - https://github.com/CrishmiCosta/Employee-Handbook-Guide/blob/main/pages/HandBook%20Q%26A%20Bot.py

3. RESULTS

Handbook Q&A Bot

Ask me any questions you have on the Handbook

What is my salary?

I don't know.

Handbook Q&A Bot

Ask me any questions you have on the Handbook

What are the standard working hours?

The standard working hours are Monday through Friday, from 9:00 AM to 5:00 PM.

Handbook Q&A Bot

Ask me any questions you have on the Handbook

What is the company mission?

The company mission is to empower authentic self-expression through versatile and high-quality clothing.

Handbook Q&A Bot

Ask me any questions you have on the Handbook

What are the list of company core values?

- Honesty and alignment
- Cross-functional collaboration
- Active listening
- Feedback culture
- Exchange of ideas and insights
- Engaging with customers
- Compassionate and clear crisis communication

4. CONCLUSION AND DISCUSSION

The project demonstrated the potential of AI-powered chatbots in streamlining communication and information retrieval processes within organization. The developed chatbot offers a practical solution to the problem disseminating information from employee handbooks. By leveraging ChatGPT's capabilities, the chatbot can rapidly and accurately address employee queries, contributing to enhanced operational efficiency and employee satisfaction.

However, some challenges remain, such as the chatbot's occasional misinterpretation of complex or ambiguous queries. Further refinement of the training data and ongoing model updates can help mitigate these issues. Additionally, the chatbot's performance could be enhanced by incorporating more advanced NLP techniques, such as named entity recognition and sentiment analysis.

In conclusion, the project successfully demonstrated the potential of AI app development using ChatGPT for creating a powerful and useful Q&A chatbot. As AI technology continues to evolve, further advancements in chatbot development are expected, leading to even more sophisticated and efficient communication tools for various domains.