

AI CHATBOT FOR GOOGLE DRIVE DOCUMENTS

• Overview

Our client approached us to streamline access to large volumes of unstructured data stored in Google Drive. Their employees frequently needed to retrieve important documents such as PDFs, DOCX, PPTX, and TXT files from their Google Drive, which was becoming inefficient and time-consuming. The client sought a solution that would allow users to interact with their Google Drive content conversationally, enhancing productivity and minimizing manual search efforts.

• Customer

Freelance

Country: USA

Industry: B2C

Customer Size: 500-1000

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• Problem Statement

The client faced the challenge of managing and quickly retrieving data from a vast repository of over 100GB of corporate documents, including various formats like PDFs, spreadsheets, and text files. Their employees had to manually sift through the data, which was time-consuming and led to reduced productivity. The client required a solution that could enable users to effortlessly retrieve relevant information through natural language queries without navigating Google Drive manually.

• Technical Solution

We designed a Retrieval-Augmented Generation (RAG) pipeline to solve this problem. The pipeline enables users to connect to their Google Drive and converse directly with the data stored within. To achieve this, we implemented file-specific data loaders for various formats (Google Docs, DOCX, PDFs, PPTX, TXT), allowing the system to extract data from Google Drive and load it into a vector database.

Once the data was ingested, we deployed LlamaIndex, which acts as the core retrieval mechanism. Using this tool, the system breaks down documents into smaller chunks and retrieves relevant segments based on user queries. For response generation, we employed OpenAI's GPT-4 model, integrated with LlamaIndex, ensuring that the responses were both contextually accurate and insightful.

We also implemented MongoDB to store user metadata and chat sessions, ensuring continuity in conversations, enabling users to return to their previous inquiries seamlessly. The entire solution was containerized using Docker and built on a Flask-based web app for easy deployment and scalability.

• Results

The AI chatbot has significantly improved the client's data retrieval process. Employees can now engage with Google Drive content through natural language queries, instantly retrieving relevant documents without having to manually sift through folders. This innovation saved substantial time and enhanced productivity across the organization, with users praising the system's ability to provide instant, accurate results. The project not only streamlined workflows but also provided the client with the opportunity to scale this solution across other departments and document repositories.

• Technologies

- Python
- Docker
- MongoDB
- LlamaIndex
- Flask
- Qdrant
- OpenAI
- OpenAI GPT4o-mini
- Github
- Embeddings
- JavaScript

• Domains

- Generative AI
- Natural Language Processing (NLP)
- Chatbot
- Retrieval Augmented Generation (RAG)