

Main Challenge: Build a chatbot using GenAI and GitHub Copilot Hackathon Project - 5

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We're building a chatbot that a) converses with people using natural language (English in this case) and b) answers questions about the data we make available to the chatbot. It should give accurate information according to the data it has access to and say "I don't have that information" if it isn't sure about how to answer certain questions.

Technically, we're building a retrieval augmented generation (RAG) pipeline using LLMs where we deal with data loading, indexing, and querying with the use of LLMs.

Project Overview

The project involves the following key steps:

Preparation:

- Ensure that the GitHub Copilot and GitHub Copilot Chat extensions are installed from the VS Code Marketplace.
- Ensure you have access to GCP: Vertex AI with PaLM models
- Ensure you have access to LlamaIndex (<https://www.llamaindex.ai/>) and https://github.com/run-llama/llama_index) and LangChain (<https://www.langchain.com/> and <https://github.com/langchain-ai/langchain>)

Input Data:

- Data will be either scraped from the ONS website, or provided as a set of documents.

Interface

- Access to the chatbot is via a web browser based user interface.

TASKS

Task 1 - the backend:

Preparing the data set

- Loading the data set and extracting it into plain text or some other formats that are consumable by LLMs
- Indexing and storing the data set appropriately
- Querying the data set with the use of LLMs

Task 2 - the frontend:

Building an API layer if applicable

- Building a web-based UX for the chatbot

Task 3 - altogether and testing:

- Deploying to your cloud of choice
- Manually testing the chatbot end-to-end
- Looking for more ways to evaluate chatbot responses