PHARMACEUTICAL CHATBOT USING GEN AI

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AGENDA

- Problem statement
- Project Overview.
- End Users.
- Our Solution and Proposition.
- Key Features.
- Modelling Approach
- Results and Evaluation

PROBLEMSTATEMENT

- Develop a conversational chatbot using the Hugging Face library, for the pharmaceutical industry. The chatbot will handle general inquiries effectively and exhibit expertise in pharmaceutical compliances, particularly ICH9.

PROJECT OVERVIEW

- Develop a conversational chatbot tailored to the pharmaceutical industry.
- Enable effective handling of general inquiries related to the pharmaceutical domain.
- Exhibit expertise in pharmaceutical compliances, particularly ICH9 guidelines.
- Assist users in understanding and complying with ICH9 standards.
- Utilize natural language processing for accurate understanding and generation of responses.
- Maintain a conversational tone to enhance user engagement and satisfaction.

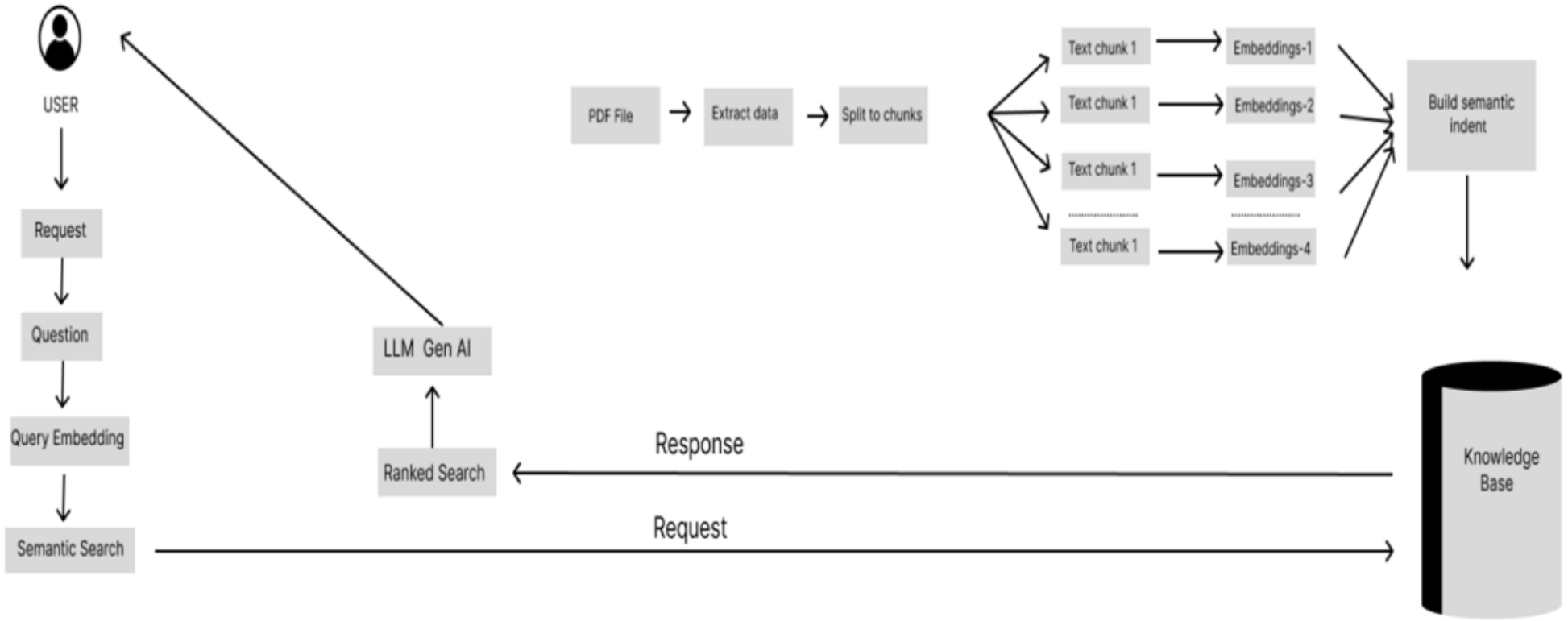
WHO ARE THE END USERS?

- End users, such as **pharmaceutical professionals,** can use the ICH9 chatbot in several ways to enhance their understanding and application of statistical principles in clinical trials and Drug development process.

OUR SOLUTION AND ITS VALUE PROPOSITION

- Pharma chatbox is a conversational system designed to provide an intelligent response to the user's queries compliances.
- By focusing in the developing of LLM model, we have chosen **llama-2-7b-chat.ggmlv3.q4_0.bin** conversational AI model from hugging face.
- The main aim of this project is to suggest the researchers and pharmaceutical industry people that safety and also avoid unnecessary clinical trials on humans and animal testing.
- The model has high accuracy in performance. By fine tuning the model, we can customize it to align with **ICH9 nuance.**

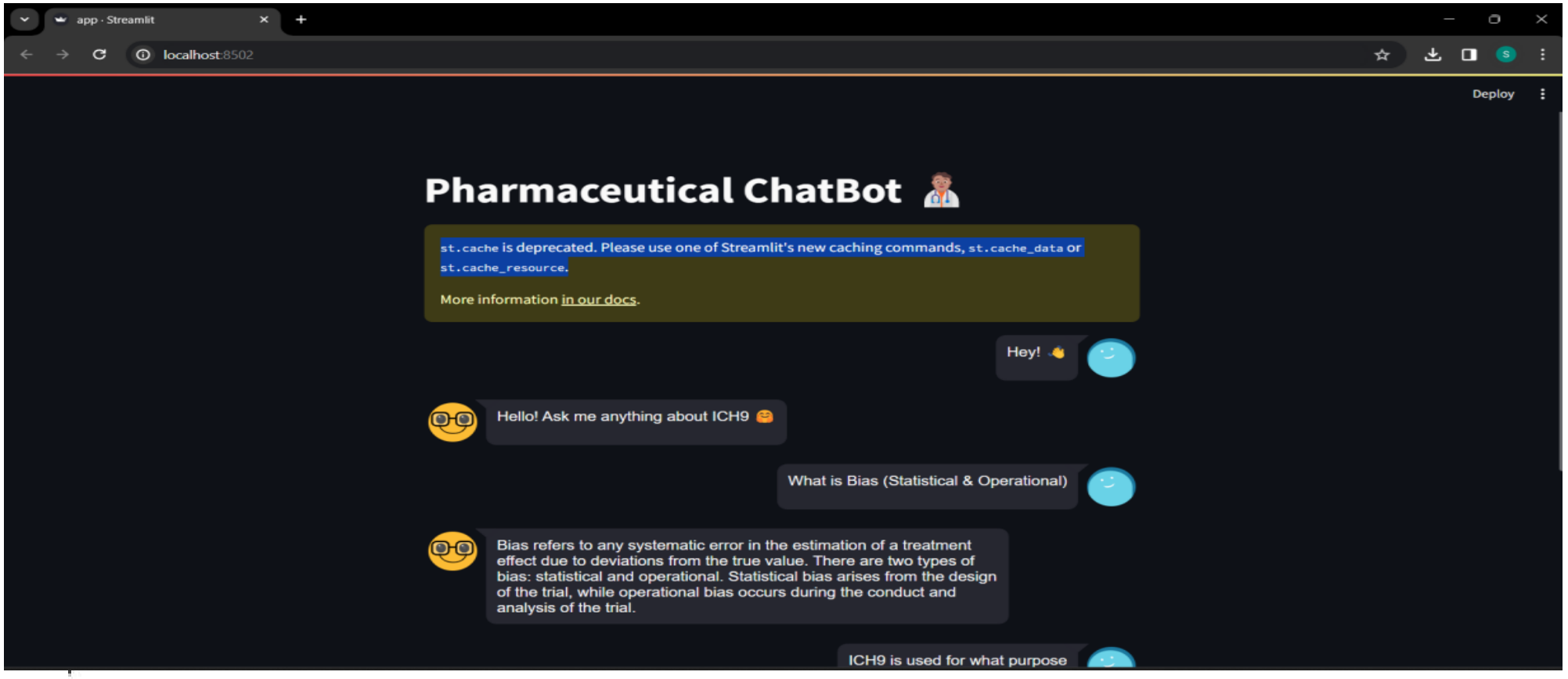
MODEL


USER
Request
Question
Query Embedding
Semantic Search
LLM Gen AI
Ranked Search
PDF File
Extract data
Split to chunks
Text chunk 1
Text chunk 1
Text chunk 1
Text chunk 1
Embeddings-1
Embeddings-2
Embeddings-3
Embeddings-4
Build semantic indent
Response
Request
Knowledge Base

RESULT

- The project successfully demonstrates the integration of various natural language processing (NLP) components to create an interactive and responsive pharmaceutical chatbot. The use of pre-trained embeddings from Hugging Face, a vector store (FAISS) for efficient similarity searches, and a conversational retrieval chain (LLM) enhances the chatbot's ability to understand and respond to user queries. Overall, the project lays a foundation for building and extending conversational AI applications in the pharmaceutical domain, showcasing the potential of combining powerful NLP tools with user-friendly interfaces

OUTPUT


app · Streamlit
localhost:8502
Deploy
Pharmaceutical ChatBot
st.cache is deprecated. Please use one of Streamlit's new caching commands, st.cache_data or st.cache_resource.
More information in our docs.
Hey! 👋
Hello! Ask me anything about ICH9 🤗
What is Bias (Statistical & Operational)
Bias refers to any systematic error in the estimation of a treatment effect due to deviations from the true value. There are two types of bias: statistical and operational. Statistical bias arises from the design of the trial, while operational bias occurs during the conduct and analysis of the trial.
ICH9 is used for what purpose