



Medical Chatbot (MediBot)

Demo Presentation

Date: 18/07/2025

MediBot

MediBot is an AI-based medical chatbot that answers user questions by retrieving information from medical PDFs using RAG (Retrieval-Augmented Generation). It searches relevant content and responds with accurate, document-backed answers through a simple chat interface.

Problem Statement

- Access to accurate and quick medical information is critical.
- Current systems are **slow, manual**, and **lack context awareness**.
- Need for an **AI-driven assistant** that can understand queries and provide **reliable answers**.

Our Solution

MediBot – An AI-powered **medical chatbot** that uses:

RAG (Retrieval-Augmented Generation) for precise responses

LLM (Mistral) for natural language understanding

FAISS for vector search and knowledge retrieval

HuggingFace platform for pre-trained models and NLP tools

Grok API Key accessing cloud-based Grok LLMs with advanced reasoning and real-time search



Tools & Technologies

- Langchain (AI Framework for LLM applications)
- HuggingFace (ML/AI Hub)
- Mistral (LLM Model)
- FAISS (Vector Database)
- Streamlit (For Chatbot UI)
- Python (Programming Language)
- VS Code (IDE)

PROJECT LAYOUT

Phase 1–

- Setup Memory for LLM (Vector Database)
- Load raw PDF(s)
- Create Chunks
- Create Vector Embeddings
- Store embeddings in FAISS

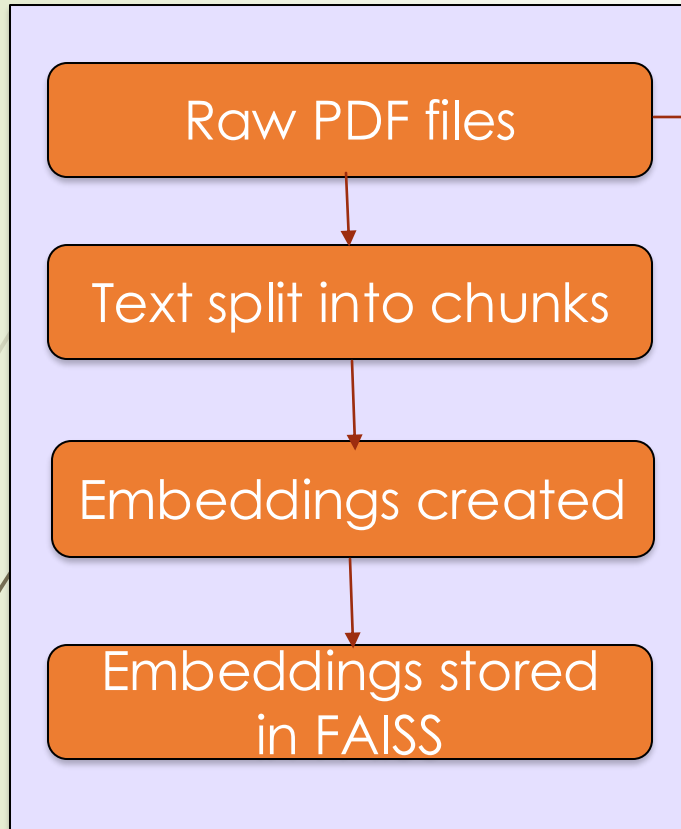
Phase 2–

- Connect Memory with LLM
- Setup LLM (Mistral with HuggingFace)
- Connect LLM with FAISS
- Create chain Phase

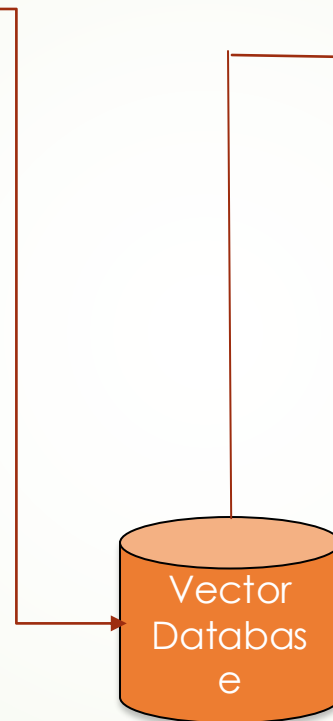
Phase 3–

- Setup UI for the Chatbot
- Chatbot with Streamlit
- Load Vector store (FAISS) in cache
Retrieval Augmented Generation–
RAG

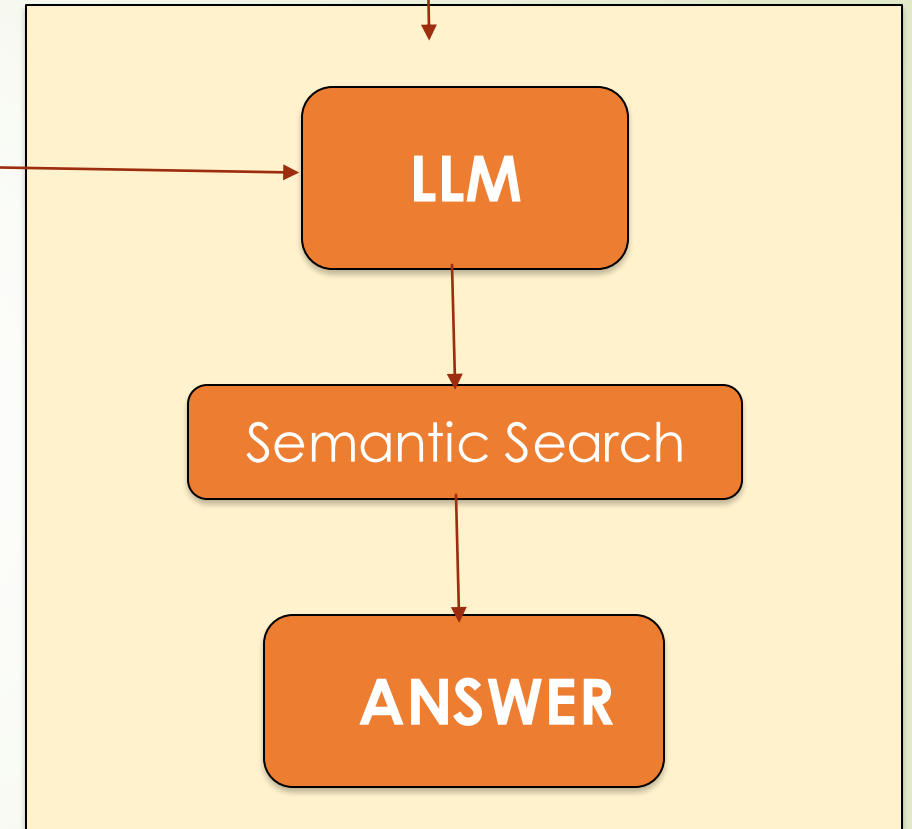
**Phase 1
Building the
Memory**



**Phase 2
Providing Context to
LLM**



**User Interface
(User Question)**



Workflow

- User enters query in chatbot
- Query converted into **embedding**
- Search relevant context in **FAISS**
- Pass context to **Mistral LLM**
- Generate and return **answer**



Future Scope

- Add **voice interface**
- Multi-language support
- Integrate with **hospital systems**

Demo?

Thank you!