📘 README – HR Assistant AI Agent

🔍 Overview

The **HR Assistant AI Agent** is an AI-powered application that answers questions related to HR policies. It uses a company HR policy document (PDF) as a knowledge source and retrieves relevant information using vector embeddings and semantic search. The user interacts with the system via a Streamlit web interface.

The system is designed to help employees or HR staff quickly retrieve accurate policy-related information without manually searching through documents.

✨ Features

- 📄 Reads HR policy from a PDF file
- 🔍 Intelligent question-answering system
- 🧠 Uses vector embeddings for semantic search
- ⚡ Fast response using FAISS vector database
- 🌐 Simple and interactive Streamlit web interface
- 🔁 Supports multiple HR-related questions
- 💬 Easy to use for non-technical users

⚠️ Limitations

- Works only on the provided document (HR policy PDF)
- Needs database regeneration if PDF is updated
- No voice input/output (text-based only)
- Accuracy depends on the quality of the document
- Does not provide legal or real-world HR advice beyond the document

🧰 Tech Stack & APIs Used

Component	Technology Used
Frontend	Streamlit
Backend	Python
Embeddings	OpenAI / HuggingFace (optional)

Component	Technology Used
Vector Database	FAISS
NLP Framework	LangChain
Document Loader	PyPDFLoader
LLM	OpenAI (or local alternative)

Main Libraries:

- streamlit
- langchain
- langchain-community
- langchain-openai / huggingface
- faiss-cpu
- pypdf

🛠 Setup & Run Instructions

1. Clone / Download the project

HR_Assistant_Agent/

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├── app.py

├── ingest.py

├── hr_policy.pdf

2. Install dependencies

pip install streamlit langchain langchain-community langchain-openai

pip install pypdf faiss-cpu

3. Add your HR policy PDF

Place your file in the project folder and name it:

hr_policy.pdf

(File must not be empty)

4. Create vector database

Run:

python ingest.py

This will generate:

hr_db/

index.faiss

index.pkl

5. Run the application

streamlit run app.py

The browser will open at:

http://localhost:8501