

AI hr chatbot project:

“In my recent role, I worked on building an AI-powered HR Support Chatbot using Generative AI.

The main goal was to automate repetitive HR queries such as leave requests, policy clarifications, and onboarding assistance, because HR teams were spending a lot of time answering the same questions.

Step 1 – Data Preparation

We first collected HR-related documents like policy handbooks, FAQs, and past queries. I used LangChain’s text splitters to break these documents into smaller, meaningful chunks and stored them in a vector database (ChromaDB) after generating embeddings. This allowed us to perform semantic search whenever an employee asked a question.

Step 2 – RAG Pipeline

The chatbot was designed using a Retrieval-Augmented Generation (RAG) approach:

1. Employee query is taken in.
2. Embeddings are created and compared in ChromaDB.
3. The most relevant context is retrieved.
4. That context plus the query is passed into an LLM (OpenAI GPT-3.5/4).
5. The model generates an accurate, context-based response.

This helped in giving reliable and organization-specific answers instead of generic ones.

Step 3 – Features & Integration

I also worked on intent recognition and entity extraction so the chatbot could identify whether it’s a leave request, policy clarification, or onboarding query. For leave requests, the chatbot could directly integrate with the HR system to automate the process.

In case the confidence score was low, we had a fallback mechanism to redirect the query to a human HR representative.

Step 4 – Deployment

We deployed the chatbot using FastAPI and Docker, and integrated it with the HR portal so employees could access it directly through their dashboards.

Step 5 – Evaluation & Impact

We measured accuracy and employee feedback. The chatbot successfully automated around 40% of HR workload, improved response speed, and enhanced employee experience during onboarding.

☞ **In short:** *I designed the end-to-end GenAI pipeline using LangChain, GPT, and RAG. My main contributions were in data preprocessing, building the retrieval system, integrating with HR workflows, and deploying the chatbot in production.*