## ✅ Interview Preparation Checklist

### 1. \*\*Core RAG & Frameworks\*\*

\* Review \*\*Retrieval-Augmented Generation (RAG)\*\* concepts.

\* Watch my Channel existing \*\*YouTube videos\*\* for a refresher.

\* Implement a simple RAG app using \*\*LangChain\*\* or LangGraph or Crew AI :

\* Load a PDF.

\* Ask a question and retrieve an answer.

### 2. \*\*LangChain, CrewAI, LangGraph\*\*

\* Understand the architecture and flow of each framework.

\* Get familiar with \*\*tools\*\* and \*\*agents\*\*.

\* Learn to manage \*\*memory\*\* and implement \*\*caching\*\* in tools.

\* Explore \*\*multi-agent systems\*\*:

\* How to orchestrate agent flows effectively in LangChain or CrewAI.

\* Review built-in tools:

\*\*Search tools\*\*, \*\*math tools\*\*, and others available in LangChain/CrewAI/LangGraph.

### 3. \*\*Python & DevOps Skills\*\*

\* Use \*\*Pydantic\*\* for data validation.

\* Practice writing \*\*modular Python classes\*\*.

\* Learn how to create and use \*\*virtual environments\*\*.

\* Get comfortable with \*\*Markdown\*\*: parsing, editing, and generating.

### 4. \*\*Document Ingestion for RAG\*\*

\* Load various file types (PDFs, Word, PowerPoint, etc.) into LangChain or CrewAI pipelines.

### 5. \*\*LLM Evaluation & Reasoning\*\*

\* Review \*\*DeepEval\*\* for testing LLM outputs.

### 6. \*\*Knowledge Graph Integration\*\*

\* Learn the basics of \*\*Knowledge Graphs\*\*.

\* Understand how to integrate \*\*Neo4j\*\* with LangChain/CrewAI for LLM-based reasoning and contextual enrichment.

### 7. \*\*Vector Stores & Retrieval\*\*

\* Work with \*\*ChromaDB\*\*, \*\*FAISS\*\*, \*\*Redis\*\*, etc.

\* Understand how these databases support semantic search in RAG pipelines.

### 8. \*\*Web Interface Tools\*\*

\* Build basic apps with \*\*Streamlit\*\*, \*\*Chainlit\*\*, and \*\*Gradio\*\* to interface with your AI agents.

### 9. \*\*Optimization Techniques\*\*

\* Review \*\*optimization methods\*\* to compare and select the best business plans or scenarios.

\* Apply these techniques to use cases involving \*\*scenario analysis\*\* or \*\*planning\*\*.

### 10. \*\*Generative AI on Cloud\*\*

\* Get familiar with \*\*AWS GenAI\*\* services:

\* Amazon Bedrock, SageMaker, and other tools for deploying and scaling GenAI apps in the cloud.

### 11. \*\*semantic similarity analysis\*\*

\* Understand \*\*semantic similarity analysis\*\* techniques with SBERT

### 12. \*\* Compare \*\*OpenAI models\*\*

\* Differences between models like ‘03’, `gpt-4o` vs. `gpt-4-turbo`

\* Use cases for \*\*reasoning-focused models\*\* vs. general-purpose ones.

### 13. \*\*Communication & Collaboration\*\*

\* Practice understanding \*\*Indian English accents\*\* to work effectively with diverse teams.