
CAPSTONE PROJECT

AI INTERVIEW TRAINER AGENT

Presented By:

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OUTLINE

- Problem Statement
- Technology used
- Wow factor
- End users
- Result
- Conclusion
- Git-hub Link
- Future scope
- IBM Certifications

PROBLEM STATEMENT

The Challenge:

Students and professionals often struggle to make informed interview preparation decisions due to the overwhelming volume of generic advice and the lack of personalized guidance tailored to specific job roles and experience levels. Manually searching for role-specific questions, behavioral scenarios, and up-to-date industry expectations is time-consuming and inefficient. Current solutions often provide one-size-fits-all guidance, leading to under-prepared candidates and missed opportunities.

Proposed Solution:

An AI Interview Trainer Agent, powered by Retrieval-Augmented Generation (RAG), is designed to prepare users for job interviews by generating tailored question sets and preparation strategies based on their specific job role and experience level. It retrieves role-specific interview questions, industry expectations, behavioral scenarios, and HR guidelines from both an internal curated knowledge base and external real-time sources (via web search). This intelligent assistant builds user confidence, sharpens responses, and increases success rates in competitive hiring environments by providing specific, actionable, and comprehensive interview prep.

TECHNOLOGY USED

IBM cloud lite services

Natural Language Processing (NLP) - (Implicit in LLM and Embeddings)

Retrieval-Augmented Generation (RAG) - (Core Architecture)

IBM Granite Foundation Model - (For advanced text generation)

Sentence Transformers (for local embeddings) - (If you used it for local KB processing before Agent Lab)

Vector Indexing (within watsonx.ai Agent Lab)

IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Agent Lab
- IBM Granite foundation model

WOW FACTORS

This agent significantly streamlines interview preparation, boosts candidate confidence, and democratizes access to high-quality career advice.

Unique features:

Role-Specific Tailoring: Provides highly relevant questions and strategies based on the user's specific job role and experience level.

Dynamic Knowledge Access (RAG): Combines a curated internal knowledge base for structured advice with real-time web search (via Google Search tool) for broader coverage of roles.

Behavioral & Technical Prep: Covers both crucial aspects of modern interviews.

Actionable Advice: Delivers clear, concise, and actionable tips for answering difficult questions (e.g., "Tell me about yourself," "Weaknesses," STAR method)

Human-like Interaction: Designed for professional and empathetic conversation, making interview prep less daunting.

Scalable & Accessible: Provides on-demand, personalized coaching, overcoming limitations of manual counseling.

END USERS

- Job Seekers (Students, Recent Graduates, Experienced Professionals)
- Career Counselors (as an assistive tool)
- Educational Institutions (for career services)
- Recruiters (for insight into common questions for various roles)
- Individuals transitioning careers

RESULTS

IBM Cloud

Search resources and products...

Catalog

Manage

Gunjan Dhakate's Account

?

Projects / InterviewTrainerAI / AI Interview Trainer Agent

Share feedback

Autosave on

New agent +

Deploy

Build

AI Model: mistral-large

Setup

Name

AI Interview Trainer Agent

Description

56/100

Change this description to reflect your particular agent

Icon

Placeholder image

Quick start questions

Add up to 4 quick start questions that your users can select.

Agent preview

AI Interview Trainer Agent 08:52 PM

Welcome to AI Interview Trainer Agent

Change this description to reflect your particular agent

Type something...

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Setup

Configuration

Framework

LangGraph

Architecture

ReAct

Instructions

Advanced configuration

You are an expert, professional, and empathetic AI Interview Trainer.

Your job is to prepare users for job interviews by generating ****tailored**** interview questions, model answers, and improvement tips using internal documents (RAG) and external sources if needed.

Knowledge

Tools

Add a tool

Create custom tool

Added tools (2)

Google search

Agent preview

PD You: 08:55 PM

hey can you help me

AI Interview Trainer Agent 08:55 PM

Hi! I can help you prep. Could you tell me your job role and experience level?

► How did I get this answer?

PD You: 08:56 PM

My Job role will be data scientist and i have zero experience

AI Interview Trainer Agent 08:56 PM

Great! Let's get started with some interview preparation for a Data Scientist role. Since you have zero experience, we'll focus on foundational questions and concepts. Here are some tailored questions, model answers, and tips to help you prepare:

Technical Questions

1. What is the difference between supervised and unsupervised learning?

Model Answer: Supervised learning involves training a model on a labeled dataset, where the outcome is known. Examples include classification and regression tasks. Unsupervised learning, on the other hand, involves training a model on an unlabeled dataset, where the outcome is unknown. Examples include clustering and dimensionality reduction.

Type something...

RESULTS

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Added tools (2)

Google search

Retrieve information from the internet with the Google search engine.

Agent preview

Industry Expectations

1. Proficiency in Programming Languages:

- Data Scientists are expected to be proficient in programming languages like Python, R, and SQL.
- Tip:** Make sure to highlight your programming skills and any relevant projects you've worked on.

2. Strong Analytical Skills:

- The ability to analyze complex data and draw meaningful insights is crucial.
- Tip:** Practice solving data analysis problems and be ready to discuss your approach.

Bonus Tip

- Practice Coding Interviews:** Many data science interviews include coding challenges. Practice solving problems on platforms like LeetCode, HackerRank, or Kaggle to improve your coding skills.

Good luck with your interview preparation! If you have any specific questions or need further assistance, feel free to ask.

► How did I get this answer?

type something...

RESULTS

Deployed AI Agent

The screenshot displays the IBM Cloud interface for a deployed AI agent. The top navigation bar shows the IBM Cloud logo, a search bar, and links to Catalog, Manage, and Gunjan Dhakate's Account. The breadcrumb trail indicates the path: Deployment spaces / Interview_Trainer_Deployment / watsonx Agent /.

The main section is titled "AI Interview Trainer Agent" with a green checkmark indicating it is "Deployed" and a status of "Online". Below this, there are tabs for "API reference", "Test", and "Preview", with the "Preview" tab currently selected.

The chat interface shows a conversation history with the following messages:

- You 09:02 PM:** hey please take my interview
- AI Interview Trainer Agent 09:02 PM:** Hi! I can help you prep. Could you tell me your job role and experience level?
- You 09:02 PM:** i want to apply for AIML Jobs
- AI Interview Trainer Agent 09:02 PM:**
 - Interview Preparation for AIML Jobs**
 - Job Role: Software Engineer**

At the bottom, there is a text input field with the placeholder "type something..." and a send button.

CONCLUSION

- The AI Interview Trainer Agent successfully leverages RAG to provide highly tailored and specific interview preparation.
- It streamlines the interview preparation process by offering on-demand, role-specific guidance.
- The agent demonstrates the power of combining curated knowledge with real-time web search for comprehensive problem-solving.
- It significantly enhances candidate confidence and preparation, thereby increasing success rates in competitive hiring environments.
- The project successfully implemented Agentic AI principles using IBM Cloud Lite services and the IBM Granite foundation model.

FUTURE SCOPE

- Personalized Mock Interviews: Develop a feature for the agent to conduct mock interviews, evaluate responses, and provide structured feedback.
- Resume/Profile Analysis: Allow users to upload their resume/LinkedIn profile for automated suggestion of questions relevant to their experience gaps or strengths.
- Voice Interface: Integrate voice-to-text and text-to-speech for a more natural and hands-free interaction.
- Multi-language Support: Expand conversational capabilities to various regional languages for broader accessibility.
- Industry-Specific Trend Analysis: Beyond roles, incorporate real-time industry news and company-specific trends to generate even more nuanced questions.
- Progress Tracking: Implement user profiles to track progress, common mistakes, and areas for improvement over time.

IBM CERTIFICATIONS

In recognition of the commitment to achieve
professional excellence



GUNJAN DHAKATE

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Issued on: Jul 21, 2025
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IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Gunjan Dhakate

for the completion of

Lab: Retrieval Augmented Generation with LangChain

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 24 Jul 2025 (GMT)

Learning hours: 20 mins

Github Link : <https://github.com/GunjanDhakate/Interview-Trainer-Agent-AI.git>



THANK YOU