

AICTE PROJECT

Interview Trainer AI Agent

Presented By: Edunet & IBMSkillsBuild

Student Name: Laukik Jadhav

College Name & Department:

Ramnarin Ruia Autonomous college CS



OUTLINE

- Problem Statement
- Technology Used
- Wow Factor
- End User
- Result
- Conclusion
- GitHub Link
- Future Scope
- IBM Cerifications

PROBLEM STATEMENT

Challenge:

Job seekers often feel unprepared for interviews due to lack of structured practice, personalized feedback, or role-specific questions.

Proposed Solution:

An Interview Trainer Agent powered by IBM Granite + RAG, which prepares users using:

- Role-specific questions
- Resume-based strategy
- Behavioral scenario drills
- Model answers & improvement tips



IBM CLOUD SERVICES & TECHNOLOGY USED

- IBM Cloud lite Services
- Retrieval Augmented Generation (RAG)
- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Agent Lab
- IBM Granite foundation model



WOW FACTOR

- Personalized Interview Prep using AI
- Responds based on resume + job title
- Covers technical + soft skills
- Generates mock interviews
- Analyzes performance
- Adapts to job roles and companies
- Uses only IBM native services



END USERS

- Fresh Graduates
- Job Seekers
- Career Coaches
- Placement Cells in Colleges
- HR Interview Trainers

RESULTS

Home Page with a short
description of agent

Agent preview



Interview Trainer Agent 11:00 AM

Welcome to Interview Trainer Agent

AI assistant that builds user confidence and increases success rates in competitive environments



Type something...





Quick Start Questions

Generalized questions which user can ask to know more about agent

Sample questions

How can you help me prepare for an interview? →	What kind of questions do you generate? →
Can I upload my resume for personalized prep? →	Can you guide me through my first job interview? →

Type something...  

Configuration

- Framework-LangGraph

LangGraph is a framework that lets developers build AI workflows as graphs, helping control how data flows between tools, models, and memory in a structured way

- Architecture- ReAct

Configuration

Framework

LangGraph

Architecture

ReAct

INSTURCTIONS

Agent Instructions

Advanced configuration

Agent instructions

Common instructions

Agent instructions are unique to this agent and will affect its specific behavior.

Reset to default



✓ Role:

You are an Interview Trainer Agent powered by Retrieval-Augmented Generation (RAG). Your goal is to prepare users for job interviews by generating tailored question sets, preparation strategies, and improvement suggestions.

✓ Goals:

1. Accept and understand user inputs (resume/job title/experience level).
2. Retrieve relevant interview preparation data.
3. Generate role-specific:
 - Technical and soft skill questions
 - Behavioral questions

Agent instructions are unique to this agent and will affect its specific behavior.

✓ Tasks:

1. Use the job title or resume to infer the job role and relevant skill sets.
2. Retrieve data from mock sources like:
 - Public recruitment portals
 - Professional networks (e.g., LinkedIn-style input)
 - Company interview question databases
3. Use IBM Granite to generate:
 - Interview questions (technical, behavioral, HR)
 - Sample answers
 - Preparation strategies

INSTURCTIONS

Common Instructions

Agent instructions

Common instructions

Adding to agent instructions and define common behavior. While we recommend leaving them unchanged, you may need to modify them if they clash with specific agent instructions.

✓ General Behavior:

Be helpful, respectful, and motivating.

Avoid giving false information.

Never assume unknown resume data—ask the user for missing information.

Protect user privacy—do not store or share resumes.

✓ Limitations:

Clearly state if a question or topic is out of scope.

Mention when the AI is generating hypothetical data for simulation.

✓ Safety & Ethics:

No biased or discriminatory questions.

Avoid gender, race, or age-specific questions.


KNOWLEDGE


Vector Index


Ground gen AI with vectorized documents

Add documents to vectorize and create a vector index in memory. Otherwise, select your vector database and specify index details.



Vector stores

 In memory



 watsonx.data Milvus

 Elasticsearch



behavioral_scenarios.txt
451Bytes



hr_guidelines.txt
594Bytes



job_description_keywords.txt
393Bytes

model_answers.txt
5.3KB

resume_analysis_tips.txt
536Bytes

Embeddings model

all-minilm-l6-v2

Select a model to compute vectors from text

Text chunk size

500 5000 2000

Text chunk overlap

0 250 200

Model Parameters

- Frequency penalty: Reduces the likelihood of the model repeating the same words too often.
- Presence penalty: Encourages the model to explore new topics by discouraging reuse of existing ones.
- Temperature: Controls randomness—higher values (like 0.7) make responses more creative and diverse.
- Top P (nucleus sampling): Limits the model to consider only the most likely tokens that make up the top P probability mass.
- Max tokens: Sets the maximum length of the generated response (2000 tokens = more detailed output).

Model parameters

Frequency penalty

-2

2

0

Presence penalty

-2

2

0

Temperature

0

2

0.7

Top P (nucleus sampling)

0.01

1

1

Max tokens

2000

Deployed Agent

Interview Trainer Agent

✓ DeployedOnline

API reference

Test

Preview

New chat +

L

You 12:05 PM

How should I answer 'Tell me about yourself' for a Machine Learning Engineer role applying at a startup vs. a large MNC

Interview Trainer Agent 12:05 PM

Let's consider how you might tailor your response for each scenario:

Machine Learning Engineer Role at a Startup:

- **Focus:** Start with your passion for machine learning and how it aligns with the startup's mission. Highlight adaptability, quick learning, and ability to wear multiple hats, which are often crucial in a startup environment.

Type something...

Prompts

Agent preview



You: 12:08 PM

Can you give me a complete mock interview for a Data Scientist role at a product-based company, including behavioral, technical, and HR questions with ideal answers



Interview Trainer Agent 12:08 PM

I'd be happy to assist you with a mock interview for a Data Scientist role at a product-based company. Here's a structured preparation with sample questions, model answers, and improvement tips:

Role: Data Scientist

Experience Level: Intermediate (3-5 years)

Company Type: Product-based

1. Technical Interview

Question: How do you handle imbalanced datasets during your predictive modeling process?

- **Model Answer:** I employ several strategies to handle imbalanced datasets, such as oversampling the minority class, undersampling the majority class, or using a combination of both (SMOTE). Additionally, I consider using appropriate evaluation metrics, like AUC-ROC or F1-score, that are less sensitive to class imbalance, instead of just relying on accuracy.
- **Tip:** Emphasize your familiarity with techniques like resampling and alternative evaluation metrics to show your understanding of dealing with imbalanced datasets.

Question: Can you explain the difference between supervised and unsupervised learning?

- **Model Answer:** Supervised learning involves training a model using labeled data to predict a target variable. For instance, in a classification problem, the model learns from input-output pairs. Unsupervised learning, on the other hand, works with unlabeled data and aims to discover patterns or groupings, such as clustering or dimensionality



FUTURE SCOPE

- Integration with IBM Watson Assistant for voice-based prep
- Frontend UI via IBM Cloud Code Engine
- Candidate performance history & dashboard
- Video-based mock interview (future)

CONCLUSION

This AI Agent:

- Prepares candidates in a personalized way
- Saves time and builds confidence
- Can be scaled for universities or job portals
- Leverages IBM Cloud-native services only

IBM CERTIFICATIONS

Getting Started With AI

In recognition of the commitment to achieve
professional excellence



Laukik Jadhav

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



Issued on: Jul 17, 2025

Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/067a9898-102a-4b94-b2c9-f7adb02e5f1>



RAG LAB Certificate



This certificate is presented to

Laukik Jadhav

for the completion of

Lab: Retrieval Augmented Generation with LangChain

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 25 Jul 2025 (GMT)

Learning hours: 20 mins

GitHub Link

The image features abstract line art in the top-left and bottom-left corners. These elements consist of numerous thin, dark grey lines that curve and sweep across the page, creating a sense of movement and depth. The lines are more densely packed in some areas, forming soft, cloud-like shapes, while in others, they are more sparse and delicate.

THANK YOU
