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# **CAPSTONE PROJECT**

## **INTERVIEW TRAINER AGENT**

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# OUTLINE

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

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# PROBLEM STATEMENT

Job seekers often struggle to prepare effectively for interviews due to the wide variety of roles, unpredictable questions, and evolving industry expectations. Manual preparation is time-consuming and often lacks personalization.

## **Proposed Solution:**

An AI Interview Trainer Agent powered by Retrieval-Augmented Generation (RAG) that delivers customized interview question sets, model answers, and preparation strategies based on user-provided job titles, experience levels, or resumes. It retrieves real-world interview data from professional sources, covers both technical and soft skills, and provides improvement feedback — boosting confidence and increasing hiring success.

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# TECHNOLOGY USED

IBM cloud lite services

Natural Language Processing (NLP)

Retrieval Augmented Generation (RAG)

IBM Granite model

# 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 will drastically reduce interview prep time, personalize preparation to individual career paths, and boost user confidence. It empowers job seekers with realistic, targeted practice and improves performance across both technical and behavioral rounds — enhancing job readiness and increasing hiring success.

## **Unique features:**

Role-specific question generation using real interview data

Behavioural and HR scenario simulation with model responses

Citation and reference analysis to trace influence

Experience based targeting : adapts question sets to user experience level

Domain aware preparation tips based on job title and industry trends

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## END USERS

- Fresh Graduates
- Job Seekers Switching Roles
- Working Professionals
- Career counsellors

# RESULTS

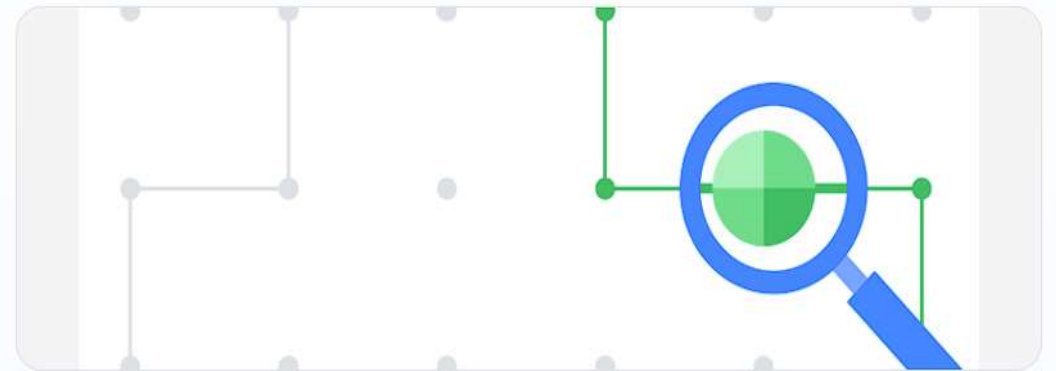
## Agent preview



Interview Trainer Agent 06:11 PM

### Welcome to Interview Trainer Agent

Prepares job seekers with role-based questions, answers, and tips using AI and resume-driven guidance



Type something...





# RESULTS

## Agent preview



You: 06:12 PM

Help me prepare for an QA intern Interview, I have no experience



Interview Trainer Agent 06:12 PM

Absolutely, I'd be happy to help you prepare for your QA intern interview. Here are some potential interview questions and sample answers tailored for a QA intern position with no experience:

### Interview Questions & Answers – QA Intern (No Experience)

#### Q1. Why are you interested in a career in Quality Assurance?

A1. I am interested in a career in Quality Assurance because I value precision and attention to detail. I understand that software quality is crucial for user satisfaction and business success. I'm eager to learn how to systematically test software to ensure it meets the required standards before it reaches end-users.

#### Q2. Can you describe a time when you identified a problem and how you might approach it?

A2. In my previous part-time job at a retail store, I noticed that customers often had trouble locating certain items. To address this, I suggested improving the store layout and signage based on customer flow patterns I observed. This experience taught me the importance of observation and problem-solving, skills I believe are transferable to identifying and reporting software bugs.

#### Q3. How would you go about testing a new feature in an application?

A3. I would start by thoroughly understanding the feature's requirements and expected functionality. Then, I would create test cases covering various scenarios, including positive (as expected), negative (unexpected inputs), and boundary conditions. I would execute these tests, document the results, and report any discrepancies.

#### Q4. What do you understand by the terms 'functional testing' and 'non-functional testing'?

A4. Functional testing is a type of black-box testing that focuses on the 'functionality' of an application. It ensures that each function works as specified in the requirement document. For example, testing a login feature would involve ensuring that valid credentials grant access, while invalid ones do not.

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# RESULTS

## Agent preview



You: 06:15 PM

"I'm applying for a data analyst position as a fresher — give me relevant interview questions and answers."



Interview Trainer Agent 06:15 PM

### Interview Questions & Answers – Data Analyst (Fresher)

#### Q1. Why are you interested in a career as a Data Analyst?

A1. I am fascinated by the power of data and its potential to drive strategic business decisions. I have a strong foundation in statistics and a keen interest in data visualization. I am eager to turn raw data into meaningful insights that can inform and influence business strategies.

#### Q2. Can you describe any data analysis projects you have completed?

A2. Although I don't have professional experience, I have worked on a few personal data analysis projects. For instance, I analyzed a public dataset on global temperature changes using Python and its libraries like Pandas and Matplotlib. I was able to identify trends, visualize the data, and draw conclusions about climate change patterns.

#### Q3. What is the difference between descriptive, diagnostic, predictive, and prescriptive analytics?

A3. Descriptive analytics summarizes historical data to understand what has happened. Diagnostic analytics determines the reasons behind the observed phenomena. Predictive analytics uses statistical models and machine learning techniques to forecast future outcomes. Prescriptive analytics suggests actions to achieve desired outcomes, often using optimization techniques.

#### Q4. How would you handle missing or inconsistent data?

A4. I would start by identifying the extent and pattern of missing or inconsistent data. If it's a small amount, I might use methods like mean/median/mode imputation or simply remove those records if appropriate. For larger datasets or systematic inconsistencies, I would discuss with the team or stakeholders to decide on the best course of action, which could involve data cleaning, advanced imputation techniques, or even revisiting the data collection process.

#### Q5. What are some key performance indicators (KPIs) you think are important for a business, and why?

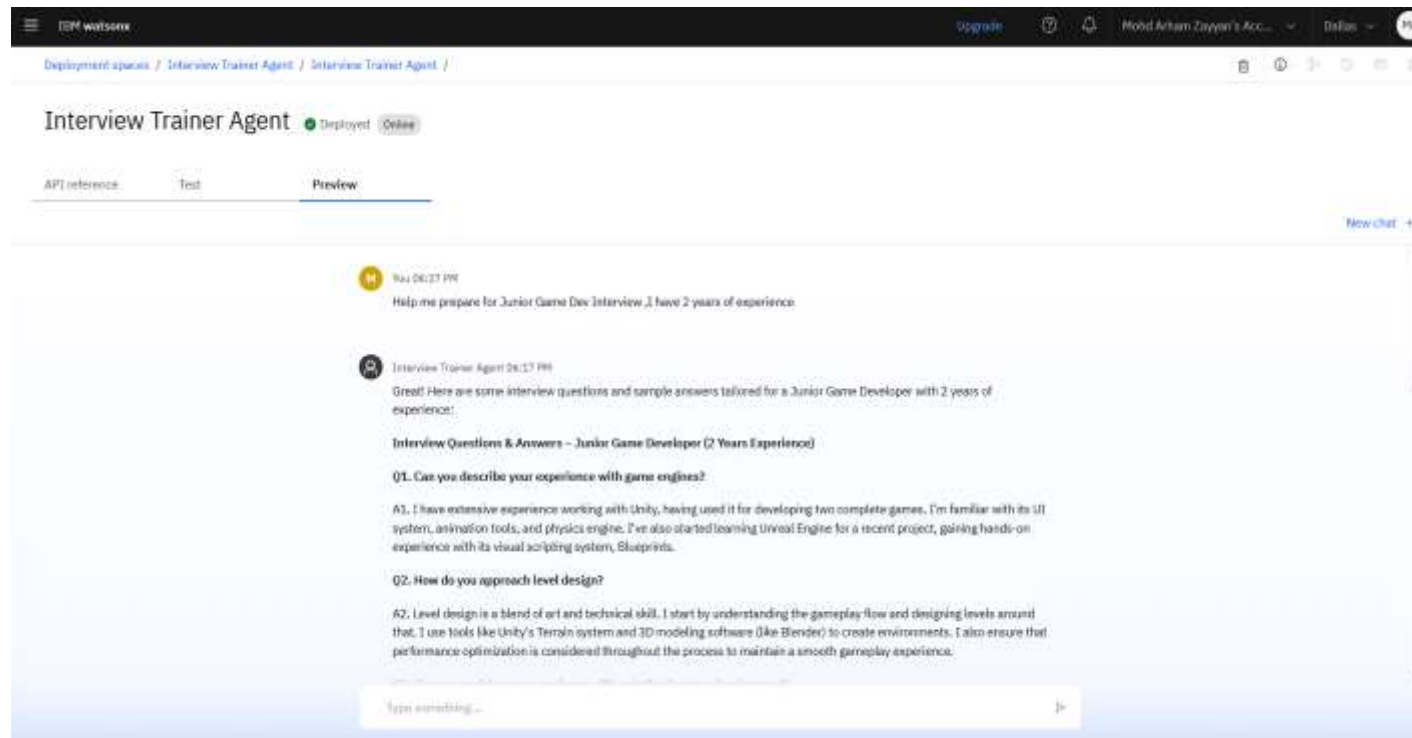
A5: KPIs can vary greatly depending on the business. However, some universally important metrics include Customer

Type something...



# RESULTS

## Deployed AI Agent



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## CONCLUSION

- The agent delivers tailored guidance based on job role and experience, making interview preparation faster and more effective.
- It helps users improve both technical and soft skills, ensuring confidence across different interview formats.
- This solution offers scalable support for individuals and institutions aiming to enhance career readiness.

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# FUTURE SCOPE

- Voice based interaction for practicing spoken answers
- Adaptive question difficulty based on user performance.
- Personalized daily interview prep plans.
- Smart tracking of user progress and improvement areas.
- Integration with external Platforms.

# IBM CERTIFICATIONS



# IBM CERTIFICATIONS



# IBM CERTIFICATIONS





## GITHUB LINK

- github\_link: [https://github.com/arhamzayyan12/Interview\\_Trainer\\_Agent](https://github.com/arhamzayyan12/Interview_Trainer_Agent)



**THANK YOU**