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# **IBM HACKATHON PROJECT**

## **JOB GRANITE GUIDE: AI-POWERED PERSONALIZED INTERVIEW PREPARATION**

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# OUTLINE

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

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# PROBLEM STATEMENT

## Problem Statement:

Job seekers struggle to prepare effectively for interviews due to generic, outdated, and non-personalized resources. Finding targeted, up-to-date questions and actionable feedback that cover both technical and soft skills is time-consuming and difficult.

## Proposed Solution:

An AI Interview Trainer Agent using RAG and IBM Cloud to provide personalized, real-time interview coaching. It generates customized questions, model answers, and improvement tips based on user profiles and current industry trends, helping candidates prepare smarter and faster.

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# TECHNOLOGY USED

IBM cloud lite services

Natural Language Processing (NLP)

Retrieval Augmented Generation (RAG)

IBM Granite model

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## IBM CLOUD SERVICES USED

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

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## WOW FACTORS

This agent delivers real-time, truly personalized interview preparation by using AI to generate role-specific questions, model answers, and targeted feedback—instantly adapting to each user's unique experience and career goals. By continuously sourcing the latest industry trends, HR standards, and behavioral scenarios, it empowers candidates with up-to-date practice and actionable insights, making interview readiness smarter, faster, and more effective than ever before.

## END USERS

- Fresh graduates preparing for their first job interviews.
- Experienced professionals aiming for career growth or role changes
- Job seekers switching industries or functions
- Recruiters/HR teams using it for candidate training and upskilling
- Individuals practicing technical and behavioral interview skills

# RESULTS

## Agent preview



IBM Job Granite Guide 11:52 PM

Welcome to IBM Job Granite Guide

IBM Job Granite Guide: AI interview coach with personalized questions and tips for your success.



### Sample questions

What job title or position should I prepare for?



How can I improve for a technical interview?



What are some tips to boost confidence during interviews?



Can you provide behavioral interview questions related to my role?



Type something...





# RESULTS

## Agent preview



You: 01:10 PM

Can you generate a set of interview questions tailored for a mid-level Software Engineer with 5 years of experience?



IBM Job Granite Guide 01:10 PM

Absolutely, I can help with that. To create the most relevant questions, I need some additional information about your specific role and areas of expertise within Software Engineering. Could you please provide details on:

1. The programming languages you are proficient in (e.g., Java, Python, C++, JavaScript).
2. Key software development methodologies or frameworks you have experience with (e.g., Agile, Scrum, Waterfall).
3. Notable projects or accomplishments from your previous roles as a Software Engineer? 4. Your familiarity with databases and any specific database systems you've worked with (e.g., MySQL, MongoDB)? 5.. Any particular industry sectors where you have gained significant experience?

Once I gather this information, we can proceed to generate tailored interview questions for a mid-level Software Engineer position based on your background and experiences so far in your career journey!

► How did I get this answer?



You: 01:13 PM

Java developer with 3 years experience, familiar with Agile and Scrum.



IBM Job Granite Guide 01:13 PM

Great, thank you for providing that information. Here are some interview questions tailored for a mid-level Java Developer with experience in Agile and Scrum methodologies:

### Technical Questions:

1. Can you describe your experience working with Java? What types of projects have you developed using this language?
2. How do you ensure the quality of your code when developing software applications in Java? (Possible answers may include unit testing, pair programming, or adherence to coding standards.) 3. Explain how object-oriented principles like inheritance and polymorphism can be beneficial in designing scalable systems. Provide examples from past projects if possible. 4. Have you worked with any specific frameworks within the Java ecosystem such as Spring or Hibernate? Could you explain their benefits and use cases based on your experiences? 5.. Describe a challenging debugging situation involving multithreading issues in Java and how did you resolve it?

**Behavioral & Experience Questions:** 6.. Give an example where following Agile practices significantly improved project outcomes at work compared to previous waterfall methods used earlier in your career (if applicable). What made these differences stand out to you specifically? 7.. As part of a Scrum team, walk me through typical daily activities during

Type something...



# RESULTS

## Agent preview

**DD** You: 01:18 PM

What are the current industry expectations and HR guidelines for interview candidates applying for a Digital Marketing Manager role?

**IBM Job Granite Guide** 01:18 PM

To provide you with the most accurate and up-to-date information on current industry expectations and HR guidelines for a Digital Marketing Manager role, I would typically conduct research using functions like GoogleSearch or DuckDuckGo. However, since I can't directly access external databases or browse the internet, let's outline what this kind of research would cover:

### 1. Industry Expectations:

- Proficiency in digital marketing strategies (SEO/SEM, content marketing, social media).
- Experience with analytics tools (Google Analytics) to measure campaign effectiveness.
- Knowledge of CRM systems for managing customer relationships.
- Familiarity with various digital platforms' advertising capabilities (Facebook Ads, Google Ads).
- Understanding of conversion rate optimization techniques.

### 2. HR Guidelines:

- Behavioral interview questions focusing on past experiences related to leadership in teams and project management skills relevant to digital marketing campaigns.
- Technical questions assessing understanding of key metrics and ability to use digital tools effectively for strategy development and execution planning.
- Questions about budget allocation across different channels based on performance data analysis might also be included as part of strategic thinking evaluation during an interview process for such roles.

For specific details tailored to recent trends or updates from reputable sources like industry reports or articles published by professional bodies such as the American Marketing Association (AMA), LinkedIn Learning's insights section could offer valuable resources once available externally through web browsing functionality which is currently beyond my scope but recommended if pursuing detailed contemporary standards directly from reliable online publications post our interaction here today!

► How did I get this answer?

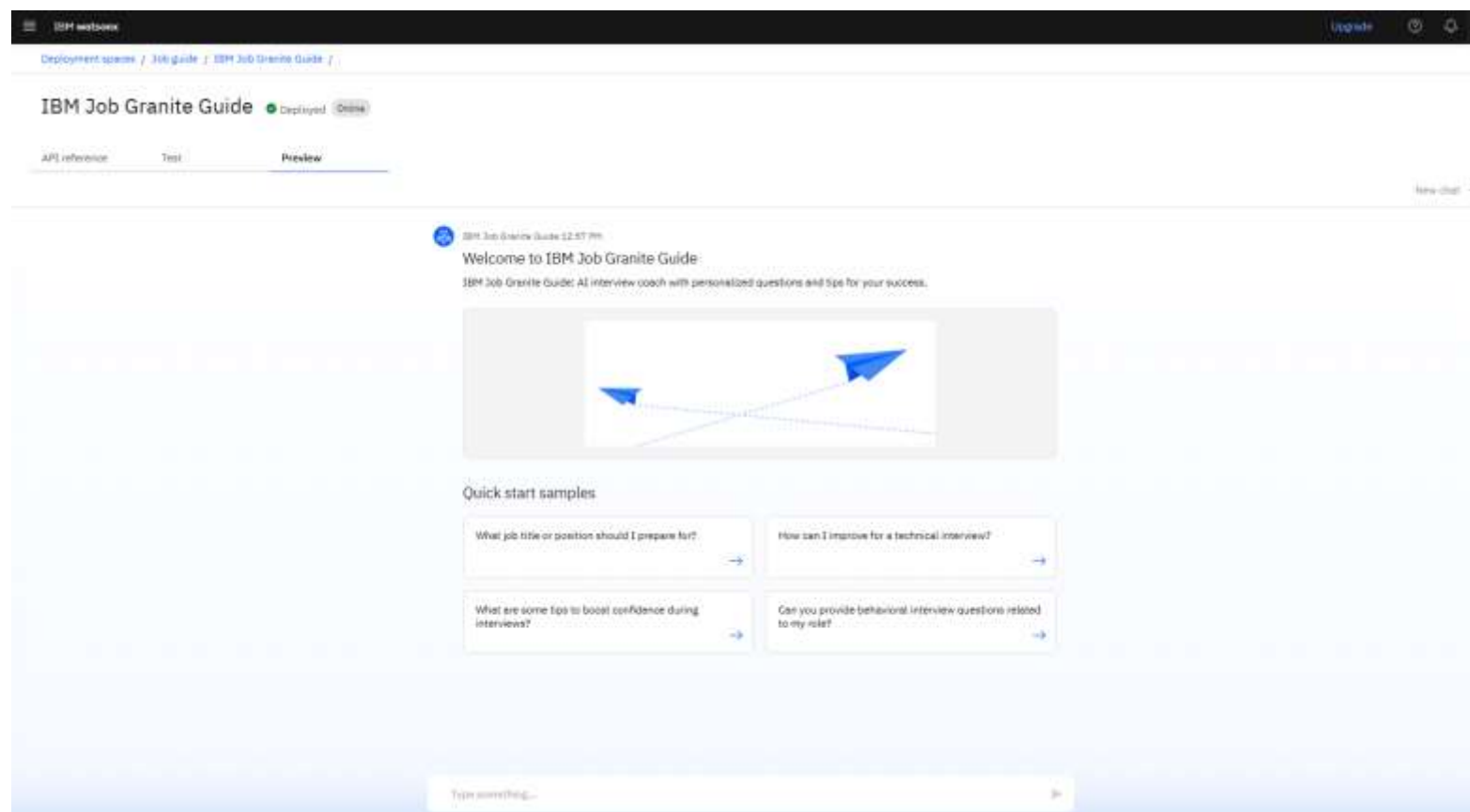


Type something...



# RESULTS

## Deployed AI Agent



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## CONCLUSION

- Delivers personalized, real-time interview preparation through AI-driven question generation, model answers, and actionable feedback.
- Automates industry research, making interview coaching faster, more relevant, and tailored to each user's profile.
- Boosts candidate confidence and increases success rates by offering holistic skill development with up-to-date, role-specific insights.

## GITHUB LINK

- <https://github.com/debarun23/Job-Granite-Guide>

# FUTURE SCOPE

- Support multiple languages for interview practice
- Voice-activated, hands-free interview coaching
- Real-time mock interviews with peers or mentors
- Instant updates on trending skills and job roles
- AI feedback on video interview performance
- AI-Assisted Paper Drafting
- Integration with job portals for tailored preparation

# IBM CERTIFICATIONS

In recognition of the commitment to achieve  
professional excellence



## Debarun Das

Has successfully satisfied the requirements for:

### Getting Started with Artificial Intelligence



Issued on: Jul 18, 2025  
Issued by: IBM SkillsBuild

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# Debarun Das

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## Journey to Cloud: Envisioning Your Solution

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IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Debarun Das

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



**THANK YOU**