
CAPSTONE PROJECT

PROJECT TITLE :

INTERVIEW TRAINER AGENT

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OUTLINE

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PROBLEM STATEMENT

- Job seekers face challenges in preparing effectively for interviews due to lack of tailored resources, uncertainty about expected questions, and low confidence.
- An Interview Trainer Agent, powered by Retrieval-Augmented Generation (RAG), assists users by generating personalized question sets and preparation strategies based on their profile, experience, and job role.
- It retrieves and delivers role-specific technical and HR questions, behavioral scenarios, and company-specific expectations to help users prepare thoroughly and succeed in competitive interviews.

PROPOSED SOLUTION

- The proposed system is an AI-powered Interview Trainer Agent that offers:
- Personalized interview question generation based on user profile, resume, and job role
- Retrieval of real-time interview trends from recruitment portals and databases
- Technical and soft skill assessment with model answers and feedback
- Resume-based tailored strategies to improve user readiness and confidence
- Deployment using IBM Cloud Lite services and IBM Granite models for accurate RAG-based question generation

SYSTEM APPROACH

Technologies Used:

- 1) Frontend: HTML, CSS, JavaScript
- 2) Backend: Node.js / Python
- 3) Database: MongoDB / IBM Cloudant
- 4) AI Model: IBM Granite for RAG
- 5) Deployment: IBM Cloud Lite

ALGORITHM & DEPLOYMENT

- RAG Workflow:

1. **Input:** Resume or Job Title
2. **Document Retrieval:** Fetch relevant question datasets and industry data
3. **Question Generation:** IBM Granite LLM generates tailored questions
4. **Feedback Engine:** Provides model answers and improvement tips
5. **Deployment:** Host on IBM Cloud with accessible UI for users

IBM watsonx

Upgrade ⓘ 🔔

Asaka Mathavan's Account ▾ Dallas ▾ AM

Deployment spaces / I-T-A / Interview Training Agent /

Interview Training Agent

Deployed Online

API reference

Test

Evaluations

Preview

You 03:49 PM

why should we hire you

Interview Training Agent 03:49 PM

When asked, "Why should we hire you?", it's an opportunity to sell your skills, experiences, and enthusiasm in a way that directly aligns with what the company needs. Here's a framework to help you craft a compelling response:

1. **Reiterate Your Understanding and Enthusiasm for the Role and Company:** Start by expressing your genuine interest in the position and the company. Mention specific aspects that appeal to you, showing you've done your homework.

2. **Highlight Relevant Skills and Experiences:** Connect your past experiences and skills to the job requirements. Use the STAR method (Situation, Task, Action, Result) to provide concise, impactful examples that demonstrate how you've added value in previous roles.

3. **Show How You Can Add Value:** Explain how your unique combination of skills, experiences, and even personality traits make you a strong fit for the role and the company culture.

4. **Indicate Your Career Aspirations:** If relevant, subtly align your career goals with the potential role or company. This shows that you're looking for long-term growth, not just a short-term position.

Here's a sample response structure:

"I've been following [Company] for some time and am particularly impressed by [mention something specific about the company culture, recent achievements, or values that resonate with you]. I believe my [number of years of experience] in [specific field or relevant roles] align well with your needs. For instance, in my previous role at [Past Company], I [describe a relevant achievement using the STAR method]. This experience honed my skills in [relevant skills], which I'm eager to bring to [Job Role] here. Beyond my technical skills, I pride myself on [mention a soft skill or personal trait that's relevant to the role or company culture]. I'm excited about the opportunity to contribute to [specific project, team, or company goal], and I'm confident that my passion, skills, and drive make me a strong candidate for this position."

Remember to tailor this template to your own experiences and the specific job description. Practice your response until it sounds natural and confident. Good luck!

▶ How did I get this answer?

Type something...

➤

CONCLUSION

- The Interview Trainer Agent is a powerful AI-driven solution designed to address common challenges faced by job seekers during interview preparation. By leveraging Retrieval-Augmented Generation (RAG) and IBM's advanced AI services (such as IBM Granite), this agent can deliver highly personalized and context-aware interview questions, simulate realistic interview scenarios, and provide actionable feedback.
- Through tailored technical and behavioral questions, resume-based assessments, and guidance on industry expectations, the agent enables users to prepare comprehensively for both technical and HR interviews.
- The deployment of this solution on IBM Cloud ensures scalability, reliability, and accessibility for a wide range of users. Overall, the Interview Trainer Agent improves user confidence, enhances interview readiness, and significantly boosts the chances of success in competitive hiring environments.

FUTURE SCOPE

- **Voice-Based Mock Interviews:** Implement speech recognition and natural language understanding to simulate real-time voice interviews with instant feedback.
- **AI-Driven Scoring and Feedback:** Introduce AI-based scoring for each user's responses, highlighting strengths and suggesting areas of improvement.
- **Integration with Job Portals:** Allow users to import job descriptions directly from platforms like LinkedIn, Indeed, or Naukri to tailor questions even more precisely.
- **Real-Time Progress Tracking Dashboard:** Provide users with a dashboard to monitor preparation progress, strengths, and time spent on each topic or skill.
- **Multi-Language Support:** Extend support for interview preparation in regional languages and international languages for broader usability.
- **Industry-Specific Interview Modules:** Add modules for specific domains like IT, Finance, Healthcare, and Government Exams with unique question sets and preparation tips.
- **Mobile App Integration:** Develop a mobile version of the platform for on-the-go interview practice and reminders.
- **AI Chatbot for Instant Help:** Deploy a 24/7 chatbot assistant to answer user queries, provide learning tips, and simulate rapid-fire rounds.

REFERENCES

1) IBM Cloud Documentation – Official IBM guides on deploying AI solutions using IBM Cloud Lite and IBM Granite LLMs.

Link: <https://cloud.ibm.com/docs>

2) Research Papers on Retrieval-Augmented Generation (RAG) – Academic studies highlighting the architecture and benefits of RAG in AI systems.

Example: Lewis et al., “Retrieval-Augmented Generation for Knowledge-Intensive NLP Tasks” (ACL 2020)

3) Recruitment Data Sources – Public and proprietary databases from platforms like Glassdoor, LinkedIn, and Indeed for interview question patterns.

4) Professional Networking Content – Blogs, webinars, and interview prep resources from platforms like LeetCode, GeeksforGeeks, and InterviewBit.

5) AI Interview Tools Benchmarking – Comparative studies on AI-powered mock interview platforms and their effectiveness.

6) Credly IBM Certifications – IBM's official certification portals showcasing completed learning modules, e.g., “Getting Started with AI,” “Journey to Cloud,” and “RAG Lab.”

IBM CERTIFICATIONS

- Screenshot/ credly certificate(getting started with AI) :



IBM CERTIFICATIONS

- Screenshot/ credly certificate(Journey to Cloud) :



IBM CERTIFICATIONS

- Screenshot/ credly certificate(RAG Lab) :



THANK YOU