CAPSTONE PROJECT

PrepWise-AI AGENT

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OUTLINE

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PROBLEM STATEMENT

Job seekers often feel unprepared and overwhelmed during interviews due to a lack of personalized guidance and role-specific practice. Generic resources don't match real-world expectations, making it hard to build confidence and perform well.

Proposed Solution:

An AI-powered Interview Trainer that uses NLP and Retrieval-Augmented Generation (RAG) to offer personalized interview preparation. It tailors questions, tips, and strategies based on the user's resume, job role, and experience level. The agent provides realistic practice, role-specific guidance, and feedback—helping users improve both technical and soft skills, boost confidence, and succeed in interviews.

TECHNOLOGY USED

- **LLMs (IBM Granite, GPT)** – for generating and answering interview questions
- **RAG (Retrieval-Augmented Generation)** – to fetch and generate job-specific content
- **NLP (Natural Language Processing)** – to understand resumes and job descriptions
- **Resume Parsing** – to extract skills, experience, and roles from user input
- **Watsonx.ai** – for building and deploying the AI agent on IBM Cloud
- **Cloud Object Storage** – to store resumes, feedback, and datasets
- **API Integration** – for pulling questions from job portals

IBM CLOUD SERVICES USED

- **Watsonx.ai Studio** – To build and train your AI agent.
- **Watsonx.ai Runtime** – To run and deploy the model.
- **IBM Cloud Agent Lab** – For creating and testing your AI agent.
- **Granite Foundation Model** – The core pre-trained model powering your Interview Trainer Agent.
- **Cloud Object Storage** – To store resumes, questions, datasets, etc.
- **IAM (API Key)** – For secure access to services.
- **Resource Group (Lite)** – To manage and host everything under IBM's free tier.

WOW FACTORS

This agent will significantly reduce research time, improve the quality of literature reviews, help early-stage researchers find direction, and foster interdisciplinary collaboration by making knowledge more accessible and actionable.

Unique features:

- Technical + behavioral prep
- Tailored questions from resume/job title
- Real-time feedback with RAG + Granite
- Mock interview simulations
- Soft skills guidance
- Industry-specific insights

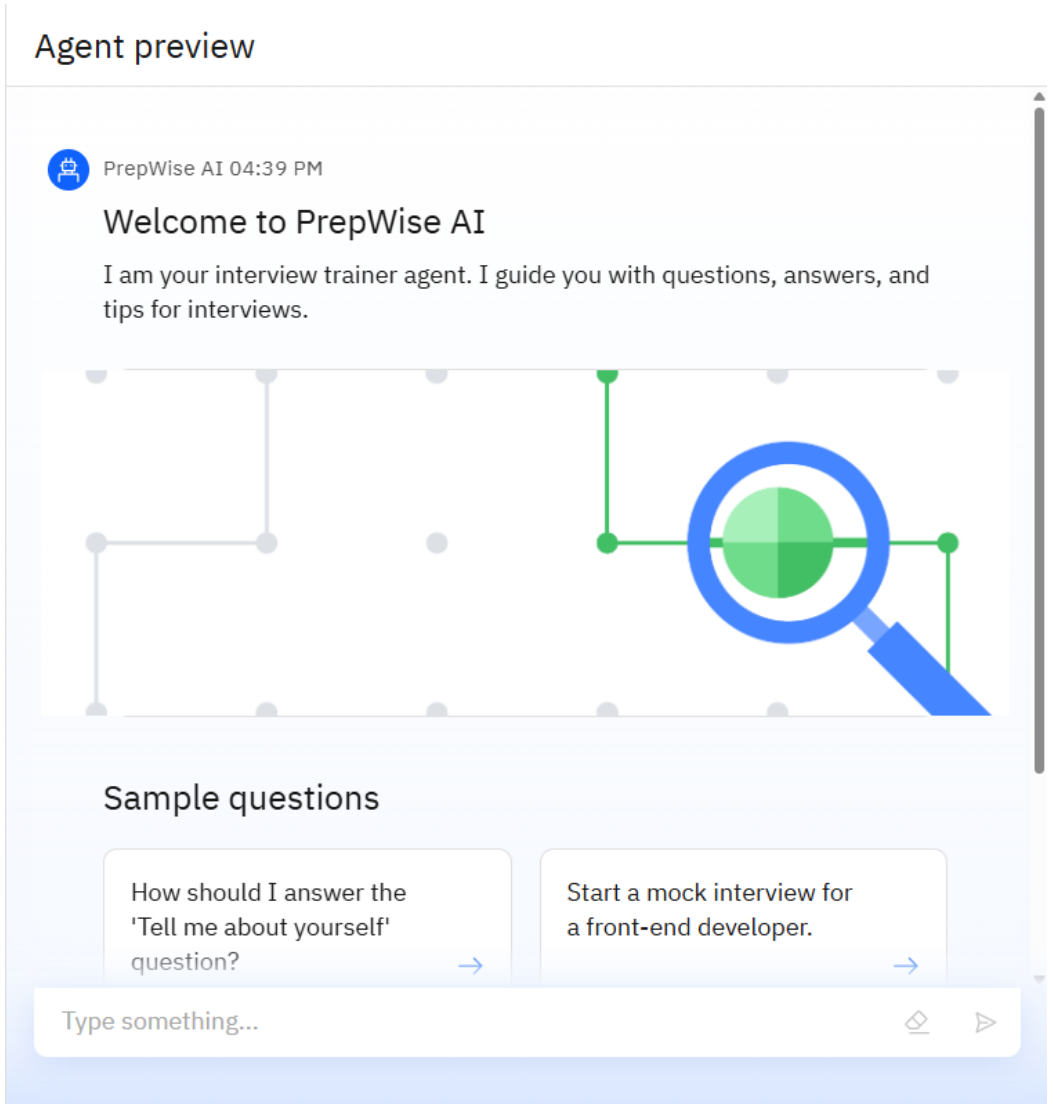
END USERS

- **Job Seekers** – Freshers and experienced professionals preparing for interviews.
- **Students** – Final-year or graduating students entering campus placements.
- **Career Switchers** – People transitioning to new job roles or industries.
- **Training & Placement Cells** – Colleges and universities helping students prepare.
- **EdTech Platforms** – Services that offer interview training modules.
- **HR Teams / Recruiters** – To test and train candidates internally.

RESULTS

- Generated personalized interview questions based on job role and resume
- Gave model answers and improvement tips for both technical & soft skills
- Adapted well to multiple job roles (e.g., Developer, Analyst, HR)
- Resume-based question generation worked accurately
- Boosted user confidence in interview preparation
- Successfully deployed using IBM Watsonx on Cloud Lite

RESULTS



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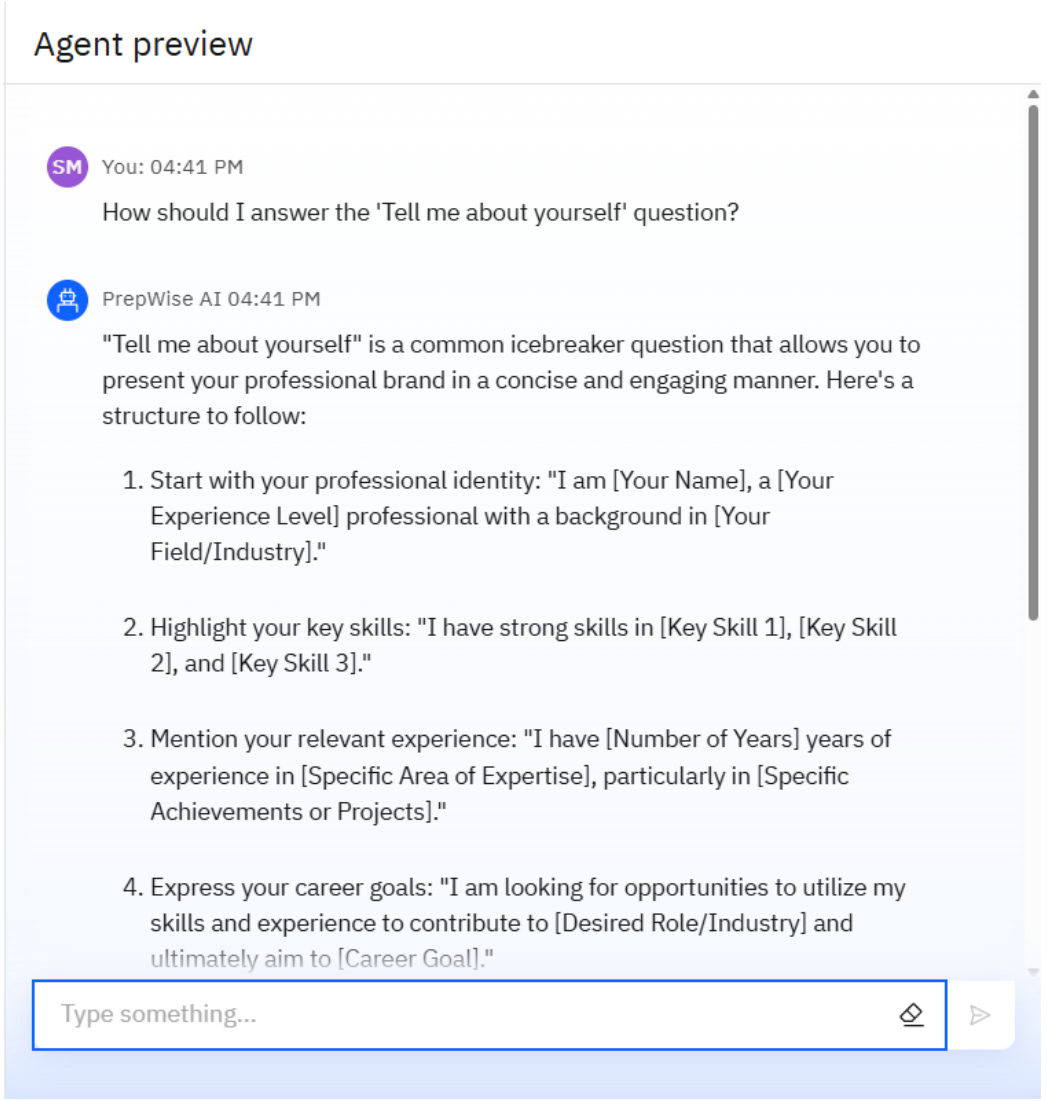
RESULTS



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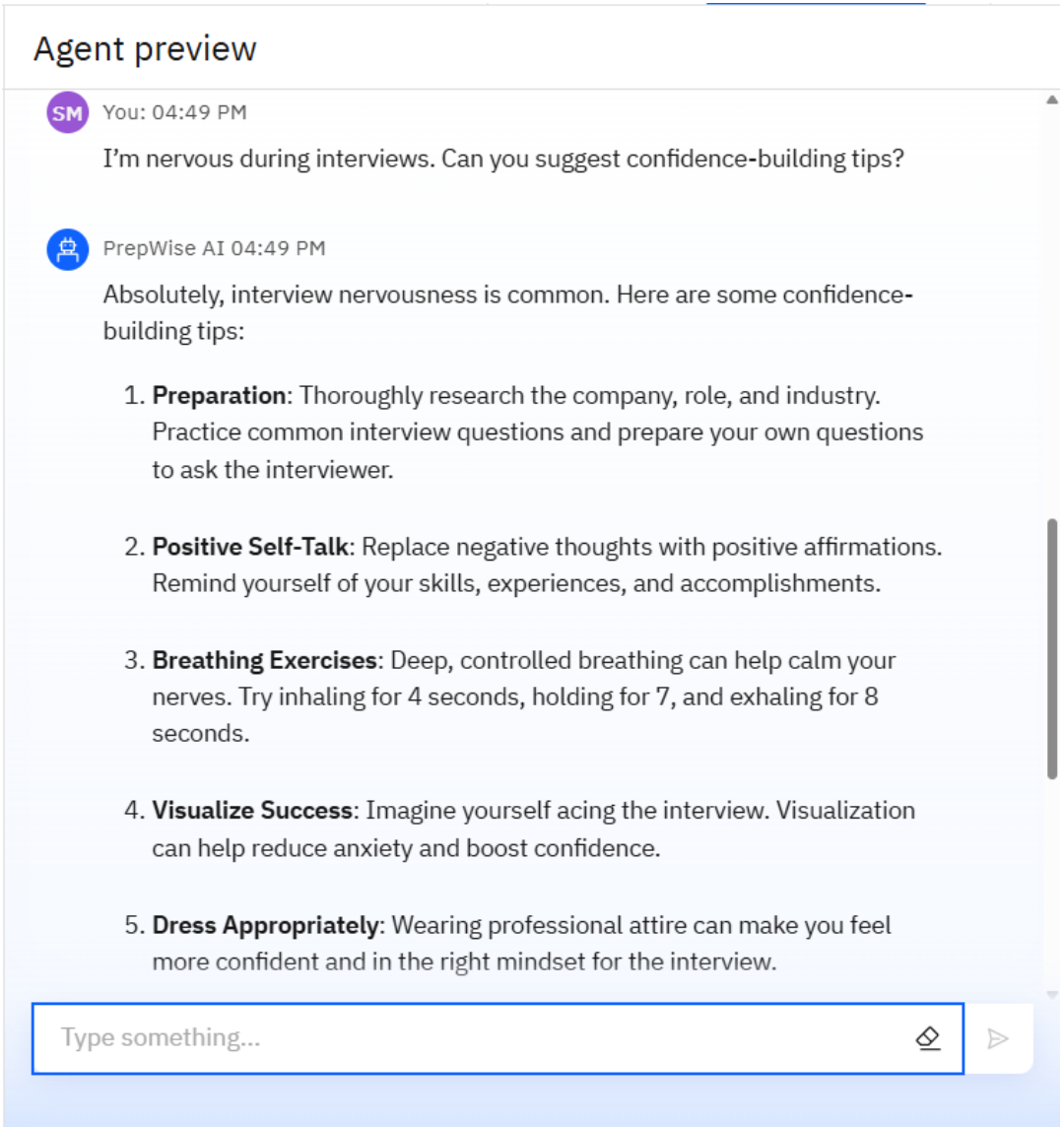
RESULTS



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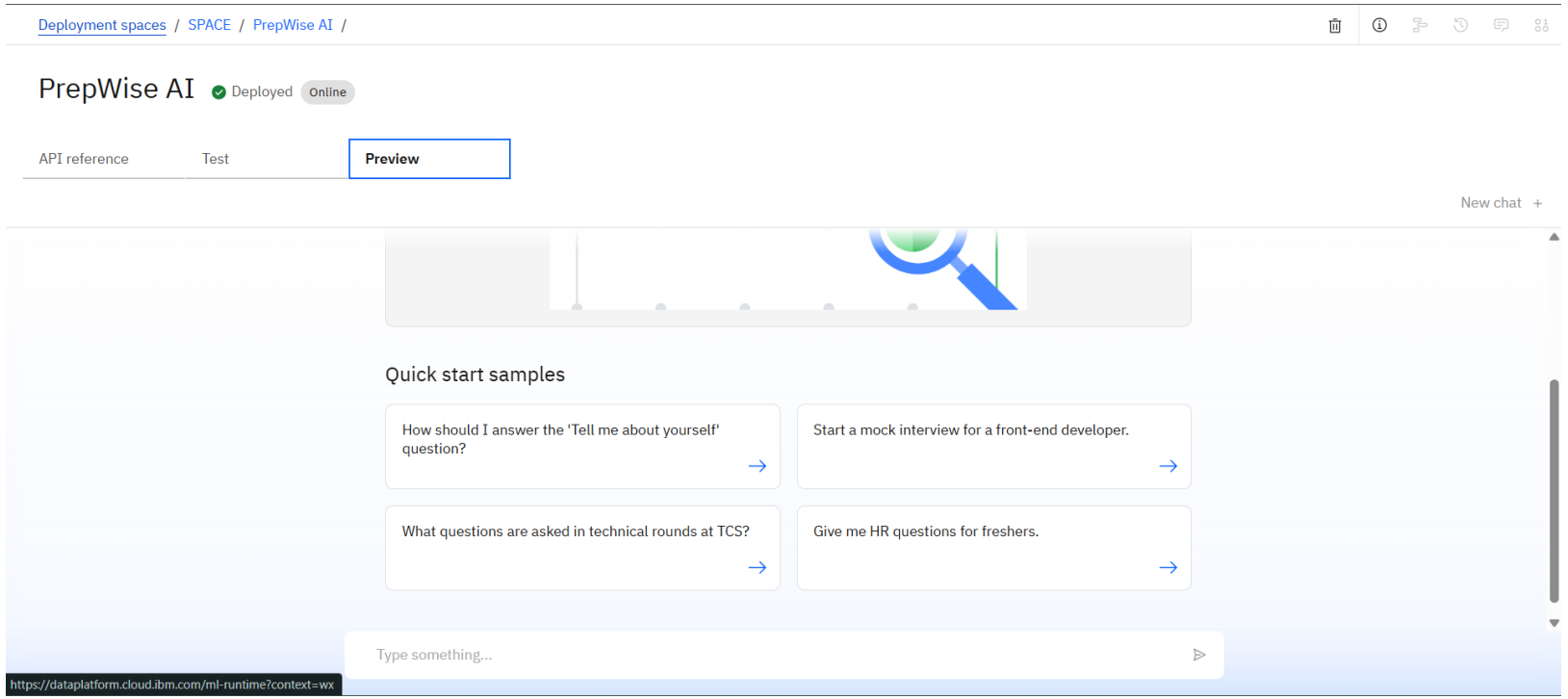
RESULTS

Deployed AI Agent



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CONCLUSION

- The agent can generate tailored interview questions, model answers, and improvement tips based on user profiles.
- It saves time by automating repetitive preparation tasks like resume analysis, question retrieval, and feedback generation.
- Interview Trainer Agents enhance confidence, precision, and success rates in interviews across various roles and industries.

GITHUB LINK

Click the image below to view my project on Github

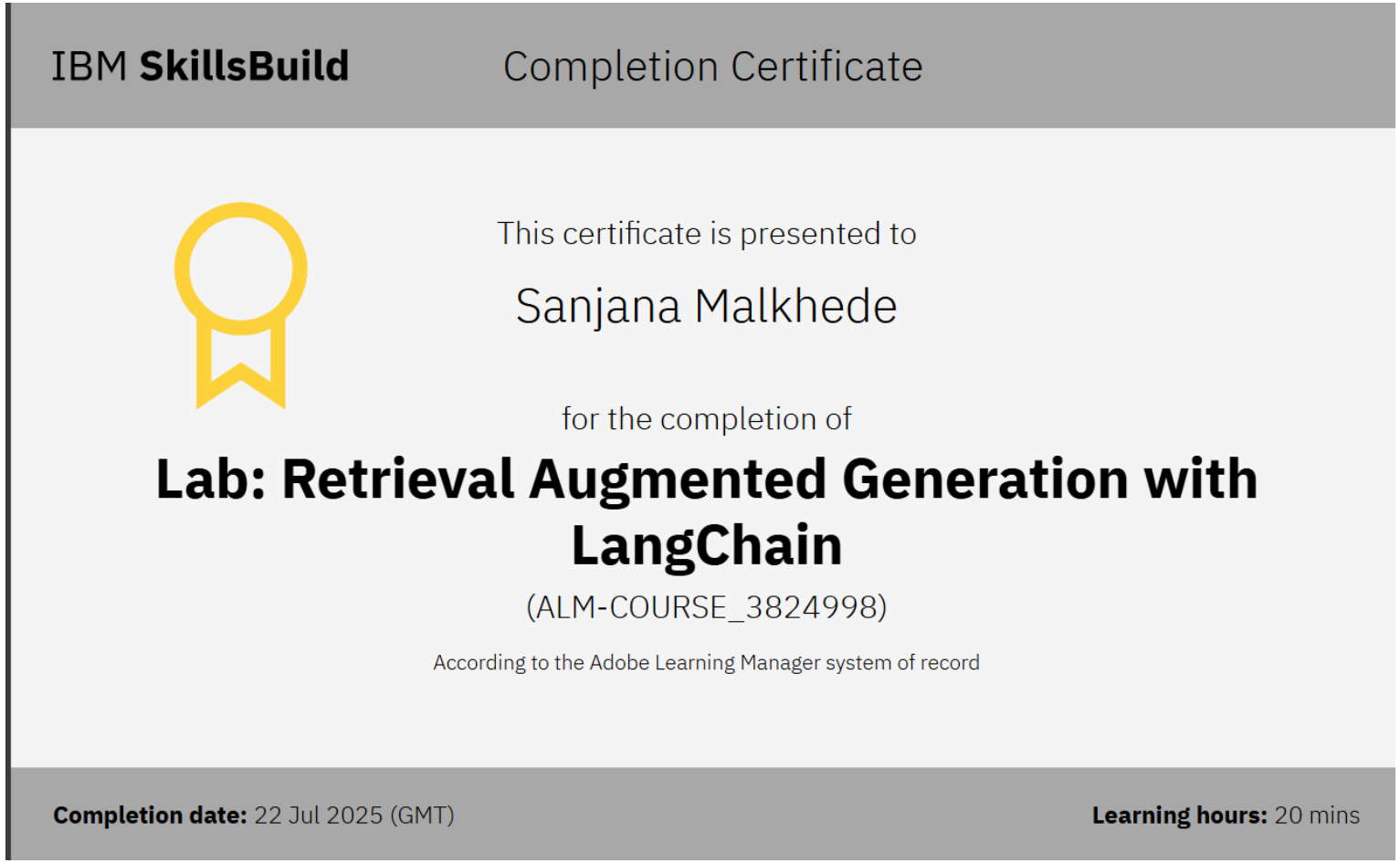
FUTURE SCOPE

- **Voice-based interaction** for realistic mock interviews.
- **Emotion analysis** to assess confidence and tone.
- **Personalized analytics** to track improvement over time.
- **Multilingual support** for broader accessibility.
- Integration **with job portals** for real-time job-specific prep.
- **Mobile app version** for on-the-go interview practice.

IBM CERTIFICATIONS

Certificate of Getting started with AI

RAG LAB Certificate



IBM **SkillsBuild** Completion Certificate

This certificate is presented to

Sanjana Malkhede

for the completion of

Lab: Retrieval Augmented Generation with LangChain

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 22 Jul 2025 (GMT) **Learning hours:** 20 mins

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THANK YOU

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