
CAPSTONE PROJECT

INTERVIEW TRAINER AGENT

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OUTLINE

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PROBLEM STATEMENT

Researchers, students, and professionals often struggle to stay updated with the rapidly growing volume of academic publications, technical articles, datasets, and evolving research trends. Manually reviewing, filtering, and synthesizing information across multiple domains is time-consuming and inefficient.

Proposed Solution:

An AI Research Agent that uses Natural Language Processing (NLP), Retrieval-Augmented Generation (RAG), to assist users in conducting efficient literature reviews, generating summaries, identifying research gaps, and recommending relevant papers, datasets, or collaborators.

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 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:

Semantic search across research papers, journals, and datasets

Auto-summarization of selected papers

Citation and reference analysis to trace influence

Recommendation of research papers based on a user's current topic

Trend analysis over time for specific keywords or domains.

Collaboration mapping: suggests potential co-authors or institutions based on similar research interests.

END USERS

- Academic Researchers
- Research Institutions and Universities
- Industry R&D Teams
- Educators

RESULTS

InterviewTrainer ✓ Deployed Online

[API reference](#)

[Test](#)

[Evaluations](#)

[Preview](#)



InterviewTrainer 10:25 PM

Welcome to InterviewTrainer

AI-powered Interview Trainer that simulates interviews and gives feedback on your performance.



Quick start samples

Help me prepare for a 'Software Engineer' interview.



Let's practice behavioral questions using the STAR method.



Analyze my resume and ask me a question about my experience.



Give me a model answer for 'Tell me about yourself'.



Type something...



RESULTS

Agent preview

Hello, I am your AI Interview Trainer. Please tell me the job title you are preparing for so we can begin. In this case, it's 'Software Engineer'. To provide the most relevant practice questions, could you also let me know your experience level? Are you a junior, mid-level, or senior Software Engineer?

► How did I get this answer?

 You: 09:59 PM

junior

 InterviewTrainer 09:59 PM

Great, thank you for letting me know. As a junior Software Engineer, you'll likely be asked a mix of technical, behavioral, and situational questions. Let's start with some technical questions. Here's the first one:

Technical Question: Can you explain the concept of Object-Oriented Programming (OOP) and list the four main principles?

Please take your time to formulate your answer, and remember, I'm here to provide feedback and improvement tips once you've responded.

► How did I get this answer?



Type something...



CONCLUSION

- The agent can generate reports, suggest hypotheses, and even draft sections of research papers.
- It saves time by automating repetitive tasks like citation management and data extraction.
- Research Agents enhance efficiency, accuracy, and innovation in both academic and industrial R&D.

FUTURE SCOPE

- Multilingual Research Support
- Voice-Activated Research Assistant
- Real-Time Collaboration Features
- Research Gap and Novel Topic Identification
- Integration with Publishing Platforms
- AI-Assisted Paper Drafting

IBM CERTIFICATIONS

In recognition of the commitment to achieve professional excellence



Saikrishna Anegunta

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



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This certificate is presented to
Sai Krishna Anegunta

for the completion of
**Lab: Retrieval Augmented Generation with
LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 23 Jul 2025 (GMT)

Learning hours: 20 mins

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GITHUB LINK:- <https://github.com/saikrishna1773/IBM-InterviewTrainer-Agent>

GITHUB LINK

- Make sure that there should be readme file



THANK YOU