
IBM AICTE PROJECT

AGENTIC AI – RESEARCH AGENT

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OUTLINE

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PROBLEM STATEMENT

A Research Agent is an AI system designed to assist with academic and scientific research tasks. It can autonomously search for literature, summarize papers, and organize references. Using natural language processing, it understands research questions and retrieves relevant information. 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.

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

watsonx Agent ✓ Deployed Online

API reference

Test

Preview

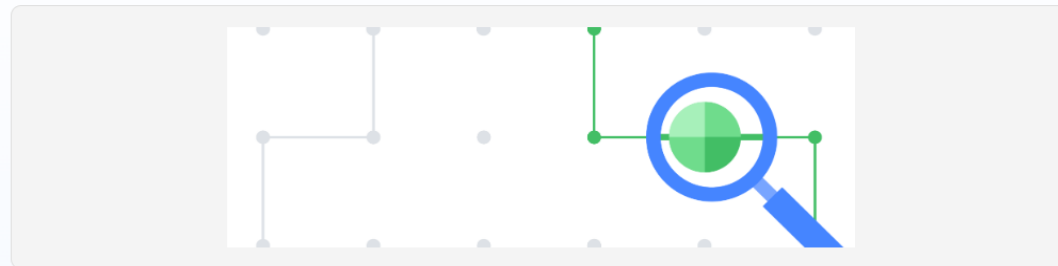
New chat +



watsonx Agent 01:36 PM

Welcome to watsonx Agent

Change this description to reflect your particular agent



Type something...



RESULTS

watsonx Agent ✓ Deployed Online

API reference

Test

Preview

New chat +



You 01:18 PM

What is artificial intelligence (AI), and how is it different from traditional computer programming or psychology?



watsonx Agent 01:18 PM

Artificial intelligence (AI) is a branch of computer science that focuses on creating intelligent machines and software that can reason, learn, gather knowledge, communicate, manipulate, and perceive objects. It is different from traditional computer programming because it emphasizes computation, and it is different from psychology because of its emphasis on perception, reasoning, and action. AI makes machines smarter and more useful by using artificial neurons (artificial neural networks) and scientific theorems (if-then statements and logic).

AI has applications in various fields such as education, engineering, business, medicine, and weather forecasting. It has improved the quality and efficiency of these areas. For example, in education, AI can be used to personalize learning experiences, provide intelligent tutoring systems, and automate grading tasks. In medicine, AI can assist in diagnosing diseases, developing new drugs, and improving patient outcomes.

The future of AI is promising, with the potential to revolutionize many industries and address global challenges such as climate change, poverty, and healthcare disparities. However, it also raises ethical considerations that need to be addressed, such as

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RESULTS

watsonx Agent ✓ Deployed Online

API reference

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Preview

New chat +



You 01:38 PM

what is edunet foundation ?



watsonx Agent 01:38 PM

Edunet Foundation is an organization dedicated to bridging the skill deficit in India by leveraging the potential of the country's youth. They focus on creating educational networks that promote employability and entrepreneurship. The foundation has enjoyed Special Consultative Status and works to enhance student employability and promote innovation.

Here are some key points about Edunet Foundation:


- **Mission:** To bridge the academia-industry divide and enhance student employability.
- **Programs:** They offer various programs such as Skills4Future, which aims to equip students with essential green skills using data analytics and AI technologies.
- **Partnerships:** Edunet Foundation collaborates with organizations like IBM for the SkillsBuild program, which helps learners acquire technical and professional skills.
- **Hiring:** They are actively hiring for positions like Master Trainer in various locations across India.

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RESULTS

Deployed AI Agent

watsonx Agent  Deployed Online

API reference

Test

Preview



watsonx Agent 01:39 PM

Welcome to watsonx Agent

Change this description to reflect your particular agent

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.

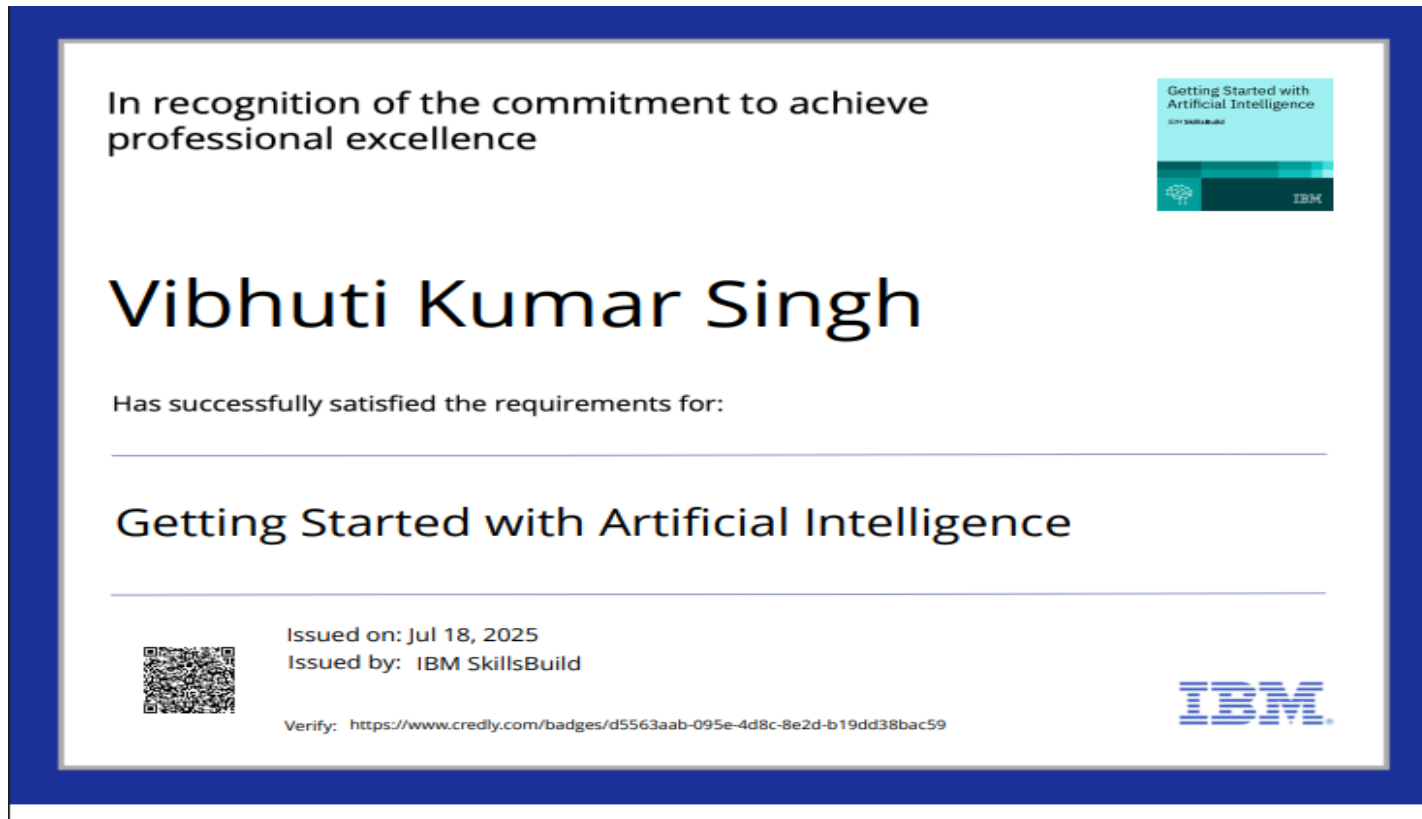
GITHUB LINK

- GitHub - https://github.com/vibhu-00/Agentic_AI

FUTURE SCOPE

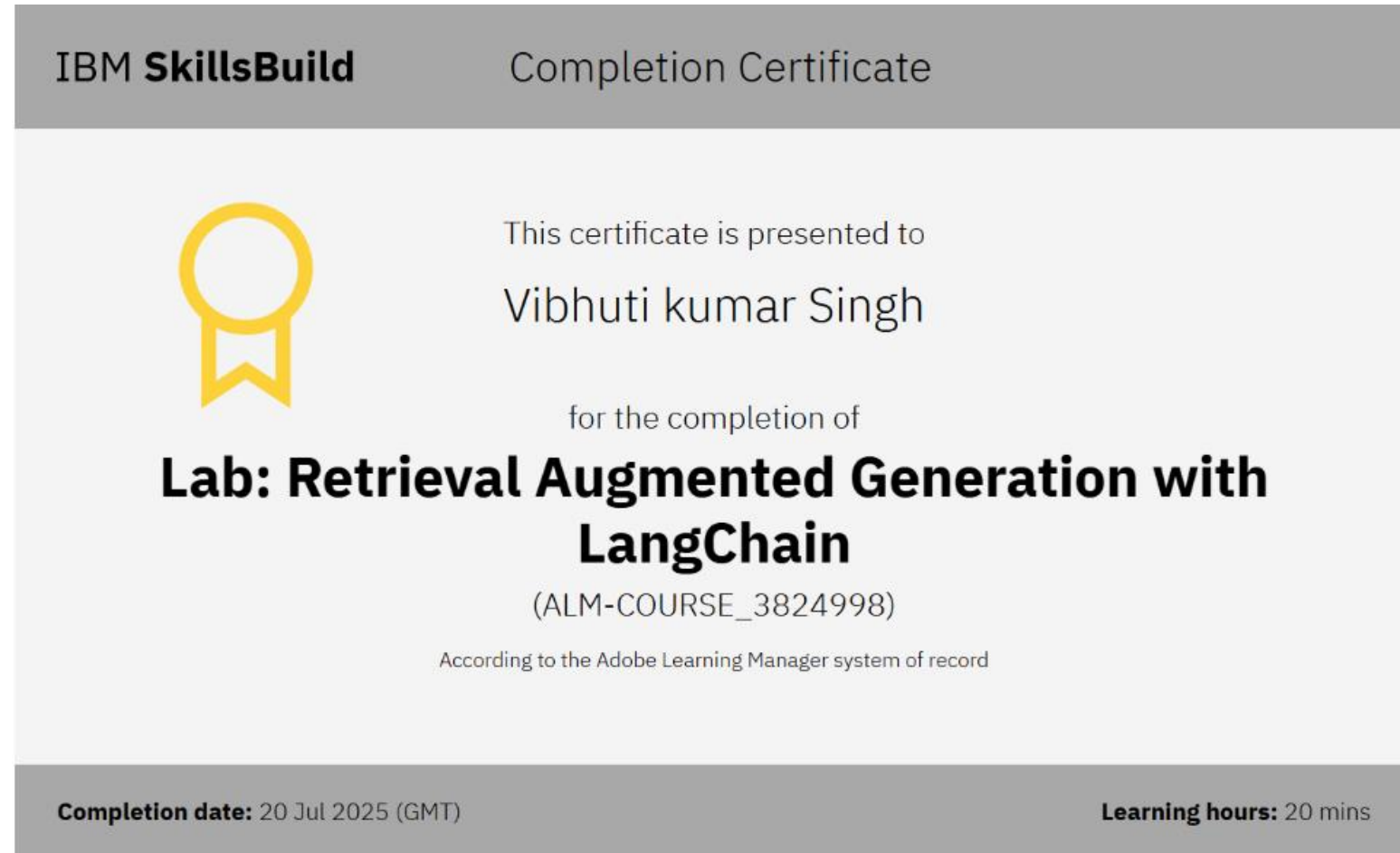
- Multilingual Research Support
- Voice-Activated Research Assistant
- Real-Time Collaboration Features
- Research Gap and Novel Topic Identification
- Integration with Publishing Platforms
- AI-Assisted Paper Drafting

IBM CERTIFICATIONS



- IBM Getting started with AI certificate

- RAG LAB certificate





THANK YOU