
IBM PROJECT

TRAVEL 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

[Upgrade](#) [?](#) [Ayush Sharma's Account](#) [London](#) [AS](#)


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Agent preview

 TRAVEL AGENT 11:17 AM

Welcome to TRAVEL AGENT

Plan your perfect trip in minutes with the power of AI.



RESULTS

Agent preview



You: 11:22 AM

show me recent research on artificial intelligence



TRAVEL AGENT 11:22 AM

Here are some recent research articles and news on artificial intelligence:

1. **MIT News:** In a new study, researchers discover the root cause of a type of bias in LLMs, paving the way for more accurate and reliable AI systems. [Read more](#)
2. **arXiv:** Harnessing AI Agents to Advance Research on Refugee Child Mental Health. [Read more](#)
3. **Stanford HAI:** News on how artificial intelligence improves patient care and expands research capacity. [Read more](#)
4. **Journal of Artificial Intelligence Research:** Current Issue on machine learning, natural language, planning and scheduling, robotics and vision, and uncertainty in AI. [Read more](#)
5. **ScienceDaily:** A team of researchers has shown that even small-scale quantum computers can enhance machine learning performance. [Read more](#)
6. **McKinsey:** The latest McKinsey Global Survey on AI finds that organizations are beginning to take steps that drive bottom-line impact. [Read more](#)
7. **Apple Machine Learning Research:** Overview of the latest advancements in machine learning and artificial intelligence. [Read more](#)

Type something...



RESULTS

Agent preview



You: 11:25 AM

Help me write an introduction for a paper on electric vehicles



TRAVEL AGENT 11:25 AM

Here are some recent research articles and news on artificial intelligence:

1. **MIT News:** In a new study, researchers discover the root cause of a type of bias in LLMs, paving the way for more accurate and reliable AI systems. [Read more](#)
2. **arXiv:** Harnessing AI Agents to Advance Research on Refugee Child Mental Health. [Read more](#)
3. **Stanford HAI:** News on how artificial intelligence improves patient care and expands research capacity. [Read more](#)
4. **Journal of Artificial Intelligence Research:** Current Issue on machine learning, natural language, planning and scheduling, robotics and vision, and uncertainty in AI. [Read more](#)
5. **ScienceDaily:** A team of researchers has shown that even small-scale quantum computers can enhance machine learning performance. [Read more](#)
6. **McKinsey:** The latest McKinsey Global Survey on AI finds that organizations are beginning to take steps that drive bottom-line impact. [Read more](#)
7. **Apple Machine Learning Research:** Overview of the latest advancements in machine learning and artificial intelligence. [Read more](#)

Type something...



RESULTS

Deployed AI Agent

The screenshot displays the IBM Watsonx interface for a deployed AI agent named "Research Agent". The agent is shown as "Deployed" and "Online". The "Preview" tab is active, showing a chat interface. The chat history includes a user query and a response from the "TRAVEL AGENT" (likely a typo for "Research Agent" in the interface).

User Query: Give me a simple hypothesis about plants and sunlight

TRAVEL AGENT 11:29 AM: Here are some simple hypotheses about plants and sunlight:

- Hypothesis: Plants grow taller when they receive more sunlight.**
 - **Independent Variable:** Amount of sunlight received.
 - **Dependent Variable:** Height of the plants.
 - **Source:** [Brainly](#)
- Hypothesis: Light helps plants grow.**
 - **Prediction:** If I put my plants in the warm sun, they will grow faster.
 - **Source:** [LinkedIn - Lukas Vermeer](#)
- Hypothesis: If plants receive more sunlight, then they will be taller than those that do not.**

The interface also shows a "New chat" button and a text input field at the bottom with the placeholder "Type something..." and a send button.

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

Git hub link : <https://github.com/ayushssharmaaa>

IBM CERTIFICATIONS

In recognition of the commitment to achieve
professional excellence



Ayush Sharma

Has successfully satisfied the requirements for:

Getting Started with Artificial Intelligence



Issued on: Jul 15, 2025
Issued by: IBM SkillsBuild

Verify: <https://www.credly.com/badges/dbd94833-a0e3-415c-ae14-2388ad3cd7ca>



IBM **SkillsBuild**

Completion Certificate



This certificate is presented to

Ayush Sharma

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

In recognition of the commitment to achieve
professional excellence



Ayush Sharma

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution



Issued on: Jul 18, 2025
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THANK YOU