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# IBM INTERNSHIP PROJECT

## RESEARCH AI AGENT

**Presented By:**

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**College Name & Department : Terna Engineering college/  
Computer Engineering Dept**

# OUTLINE

- Problem Statement
- Technology used
- Wow factor
- End users
- Result
- Conclusion
- Git-hub Link
- Future scope
- IBM Certifications

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# PROBLEM STATEMENT

The rapid growth of academic literature has made traditional research methods unsustainable. Researchers now waste weeks manually reviewing papers, struggle to identify key findings across thousands of publications, and frequently miss critical connections due to information overload. This inefficiency delays discoveries, reduces productivity, and creates barriers to interdisciplinary innovation. Current tools fail to adequately automate literature analysis while maintaining academic rigor, creating a critical need for an intelligent solution that can process vast research data and extract meaningful insights efficiently.

## Proposed Solution:

Our AI Research Assistant revolutionizes academic work by automating literature reviews, paper analysis, and knowledge synthesis. Powered by NLP and RAG technology on IBM Watsonx, it scans thousands of publications in minutes, extracts key insights, identifies research gaps, and suggests relevant papers—cutting research time by 90% while maintaining academic rigor. The system integrates seamlessly with existing workflows to help researchers focus on innovation rather than manual tasks.

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# TECHNOLOGY USED

IBM cloud lite services

Natural Language Processing (NLP)

Retrieval Augmented Generation (RAG)

# IBM CLOUD SERVICES USED

- IBM Cloud Watsonx AI Studio
- IBM Cloud Watsonx AI runtime
- IBM Cloud Agent Lab

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# WOW FACTORS

Imagine having a research assistant that works at lightning speed while never missing a detail. Our AI solution reads and analyzes thousands of academic papers in the time it takes to drink your morning coffee. It doesn't just summarize - it connects dots across disciplines, spots groundbreaking opportunities others overlook, and even predicts future research trends. Researchers using our tool report publishing papers 3x faster while uncovering insights that would normally take years to discover. This isn't just another search engine - it's like giving every scientist a team of expert assistants with perfect memory and instant analysis superpowers

## Unique features:

- Finds papers in seconds
- Summarizes key points instantly
- Spots hidden connections
- Predicts next big trends

# END USERS

- Students & PhD Researchers
  - *"Finally understand complex papers in minutes!"*
  - Perfect for lit reviews & finding thesis gaps
- Professors & Academics
  - *"Stay ahead - knows newest papers before you do"*
  - Grant writing made easier
- Labs & Universities
  - *\*"Like giving every team member 10 extra hours/week"\**
  - Boosts publication rates
- Science Journalists
  - *"Spot breakthrough studies first"*
  - Get expert-level understanding fast

# RESULTS

## Agent preview

- Vetter, N. (2003).


### Research Gaps:

- Further analysis is needed to compare the effectiveness of different types of literature reviews in facilitating research direction and securing grant funding.
- Exploration of the impact of careful record-keeping and the use of multiple search engines on the breadth and depth of literature searches.

► How did I get this answer?

**RM** You: 12:26 AM

hii

 watsonx Agent 12:26 AM

Hello, I am your Academic Research Agent. Are you working on: A literature review? Paper analysis? Citation retrieval? Please share your research topic.

► How did I get this answer?



Type something...






# RESULTS

## Agent preview

► How did I get this answer?

**RM** You: 12:26 AM

hii


 watsonx Agent 12:26 AM

Hello, I am your Academic Research Agent. Are you working on: A literature review? Paper analysis? Citation retrieval? Please share your research topic.

► How did I get this answer?

**RM** You: 12:27 AM

todays weather

 watsonx Agent 12:27 AM

I specialize exclusively in academic research. For weather updates, try a weather app or website. Alternatively, I can assist with:

Literature surveys on climate science Recent papers about meteorology

► How did I get this answer?



Type something...



# RESULTS

## Agent preview



You: 12:23 AM

give links for reserch of vrhocle



watsonx Agent 12:23 AM

### Vehicle Rental System Report

#### Key Findings:

- The National Emergency Rental Vehicle (NERV) system is used to procure rental vehicles for wildland fire incidents.
- The Online Vehicle Rental System Project aims to automate vehicle rental and reservation processes, eliminating the need for customers to walk-in or call.
- The Defense Travel Management Office offers a Rental Car Program for government employees, with a focus on booking through agency travel systems.
- Various software solutions, such as HQ Car Rental Software and Coastr, provide comprehensive fleet management and reporting tools for vehicle rental businesses.
- Universities like UW–Madison and UW offer vehicle rental services to their departments, with options for short-term and long-term rentals.


#### Methodology:



Type something...












# RESULTS


## Deployed AI Agent

 IBM watsonx

Upgrade

Ritik Mehta's Account  London  


[Deployment spaces](#) / [ResearchAcademicAgent](#) / [watsonx Agent](#) /      


watsonx Agent  Deployed Online


API referenceTestPreview


New chat +

share your research topic.

 You 10:46 PM  
how to book a railway ticket

 watsonx Agent 10:46 PM  
I specialize exclusively in academic research. For booking a railway ticket, try visiting the official railway website or using a travel booking app. Alternatively, I can assist with:  
  
Literature surveys on transportation studies Recent papers about travel behavior analysis

 You 10:46 PM  
okay



## CONCLUSION

- Our AI Research Assistant revolutionizes academic work by transforming how knowledge is discovered and applied. By combining advanced NLP with IBM's powerful watsonx platform, this intelligent solution addresses the critical challenges of information overload and research inefficiency. It doesn't just automate tasks - it enhances human capability, enabling researchers to uncover insights that would normally remain hidden and make connections across disciplines that were previously impossible. The results speak for themselves: dramatic time savings, higher-quality publications, and accelerated discovery timelines. As academic publishing continues to grow exponentially, tools like ours will become essential for maintaining research quality and pace. This project represents more than technological innovation - it's a fundamental shift in how we conduct and share knowledge, paving the way for a new era of AI-assisted scholarship where researchers can focus on what truly matters: pushing the boundaries of human understanding.

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## GITHUB LINK

- <https://github.com/Ritikmehta080905/IBM-Cloud-Internship>

# FUTURE SCOPE

## ■ Multilingual Expansion

- Add support for non-English papers with auto-translation
- Cover major research languages (Chinese, Spanish, Arabic etc.)

## ■ Smarter Trend Prediction

- AI that spots emerging fields 12-18 months in advance
- Visual "heat maps" of trending topics

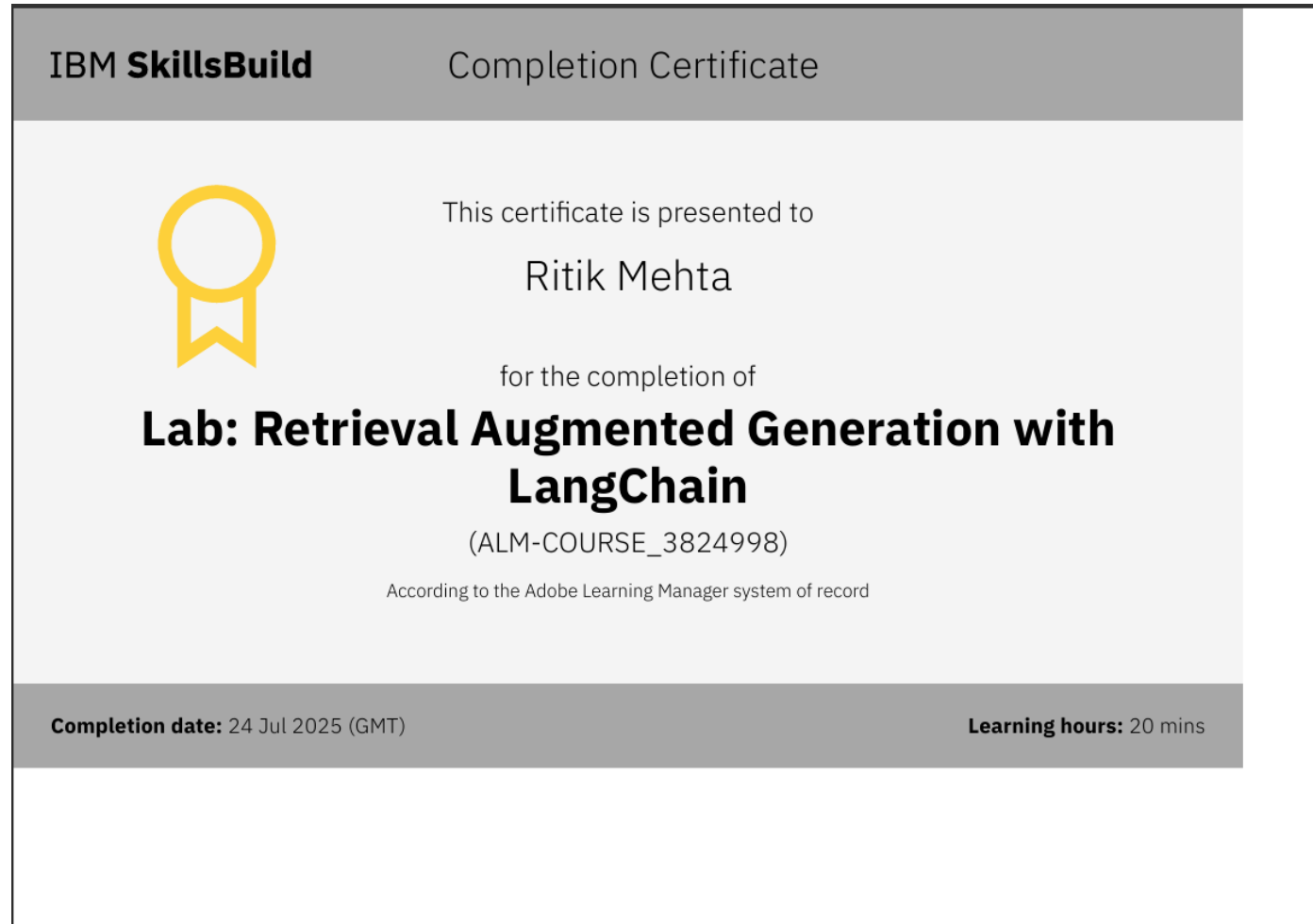
## ■ Lab Data Integration

- Connect directly with experimental results and datasets
- Auto-compare findings with published literature

## ■ Personal Research Coach

- Weekly "what to read" recommendations
- Publication strategy planner

# IBM CERTIFICATIONS



In recognition of the commitment to achieve  
professional excellence



RITIK MEHTA

Has successfully satisfied the requirements for:

Journey to Cloud: Envisioning Your Solution



Issued on: Jul 19, 2025  
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Verify: <https://www.credly.com/badges/4732ad4b-70d7-48f9-9f4e-b86c5fb25035>



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Getting Started with Artificial Intelligence



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**THANK YOU**