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# IBM AICTE PROJECT

## RESEARCH AGENT

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# OUTLINE

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

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# PROBLEM STATEMENT

Researchers and students face challenges in understanding and summarizing complex social impact research due to information overload, time constraints, and difficulty evaluating AI-generated content against real abstracts.

Proposed Solution:

An AI-powered Social Research Summary Agent that uses IBM Granite to generate and evaluate literature summaries in domains like climate, education, or public policy. It compares AI summaries with human-written abstracts and scores them for clarity, completeness, and coverage — aiding faster, more reliable academic writing.

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# TECHNOLOGY USED

- IBM cloud lite services
- Natural Language Processing (NLP)
- IBM Watsonx.ai
- IBM Granite model

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## 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 accelerates the review of social research by generating clear and concise literature summaries and evaluating their quality. It supports students, academics, and policy researchers working on social impact topics by improving clarity, reducing cognitive load, and offering benchmark-based feedback — making social research more accessible and actionable.

## **Unique features:**

Smart Topic Breakdown

Granite-Powered AI Summarization

Real vs AI Comparison Scoring

Auto-Citation Drafting

Transparent Summary Scoring

No-Data Dependency

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## END USERS

- Academic Researchers
- Research Institutions and Universities
- Policy Analysts & NGOs
- Educators & Professors
- Libraries and Digital Knowledge Platforms
- Social Sector Professionals

# RESULTS

## Agent preview



SocialResearchSummary\_Agent 01:54 PM

Welcome to SocialResearchSummary\_Agent

Summarizes, organizes, and scores social research using IBM Granite for early-stage writing.



## Sample questions

Can you summarize this research abstract for a policymaker?



Give me a plain-language version of this policy research.



What are the main findings and gaps in this article?



Score this AI-generated summary for clarity and relevance.



Type something...





# RESULTS


## Agent preview

 You: 09:47 PM  
Hello

 SocialResearchSummary\_Agent 09:47 PM  
Hi, I'm your Social Research Summary Agent, built with IBM watsonx.ai. I can summarize, evaluate, or simplify research papers for you. Just paste a paragraph or abstract to begin!

► How did I get this answer?

 You: 09:49 PM  
Summarize research on the impact of mobile banking in rural education.

 SocialResearchSummary\_Agent 09:49 PM

Mobile banking has shown significant potential in enhancing rural education by providing financial accessibility and convenience. Key findings suggest that mobile banking can facilitate the distribution of scholarships and stipends to students in remote areas, reducing the need for physical bank visits. This not only saves time but also cuts down on transportation costs, which can be substantial in rural settings.

Moreover, mobile banking can streamline school fee collections, ensuring timely payments and reducing administrative burdens. It also enables parents, even those with limited literacy, to manage their children's school finances more effectively.

However, challenges persist, including digital literacy gaps and limited mobile network coverage in some rural areas. Solutions to these issues involve targeted digital literacy training programs and expanding mobile network infrastructure.


In summary, while mobile banking presents a promising avenue for improving financial management in rural educational contexts, addressing digital literacy and connectivity issues is crucial for its successful implementation.



► How did I get this answer?

Type something...




# RESULTS

 Build > Agent preview

 You: 09:54 PM

Human-written abstract to test: This research explores the policy framework and adoption trends of solar energy in Tier-2 cities in India. Through interviews with 200 urban households and analysis of government incentives, it identifies key barriers to solar adoption, including affordability, awareness, and infrastructure gaps. The paper concludes with policy suggestions for inclusive energy transitions in secondary urban centers.

 SocialResearchSummary\_Agent 09:54 PM

AI-Generated Summary: This study examines the effectiveness of solar energy policies in urban India, specifically in Tier-2 cities. It details the findings from interviews with 200 urban households and an analysis of government incentives. The research pinpoints affordability, awareness, and infrastructure as significant barriers to solar adoption. The paper concludes by offering policy recommendations to foster inclusive energy transitions in secondary urban areas.

Evaluation: Clarity: Both the AI summary and the human-written abstract are clear, providing a straightforward overview of the research topic, methodology, key findings, and conclusions.

Coverage: The human-written abstract offers comprehensive coverage, detailing the research method (interviews and analysis of government incentives), sample size (200 urban households), key barriers to solar adoption (affordability, awareness, and infrastructure gaps), and policy suggestions for inclusive energy transitions. The AI summary captures most of these elements but lacks the specificity on the sample size.

Score:

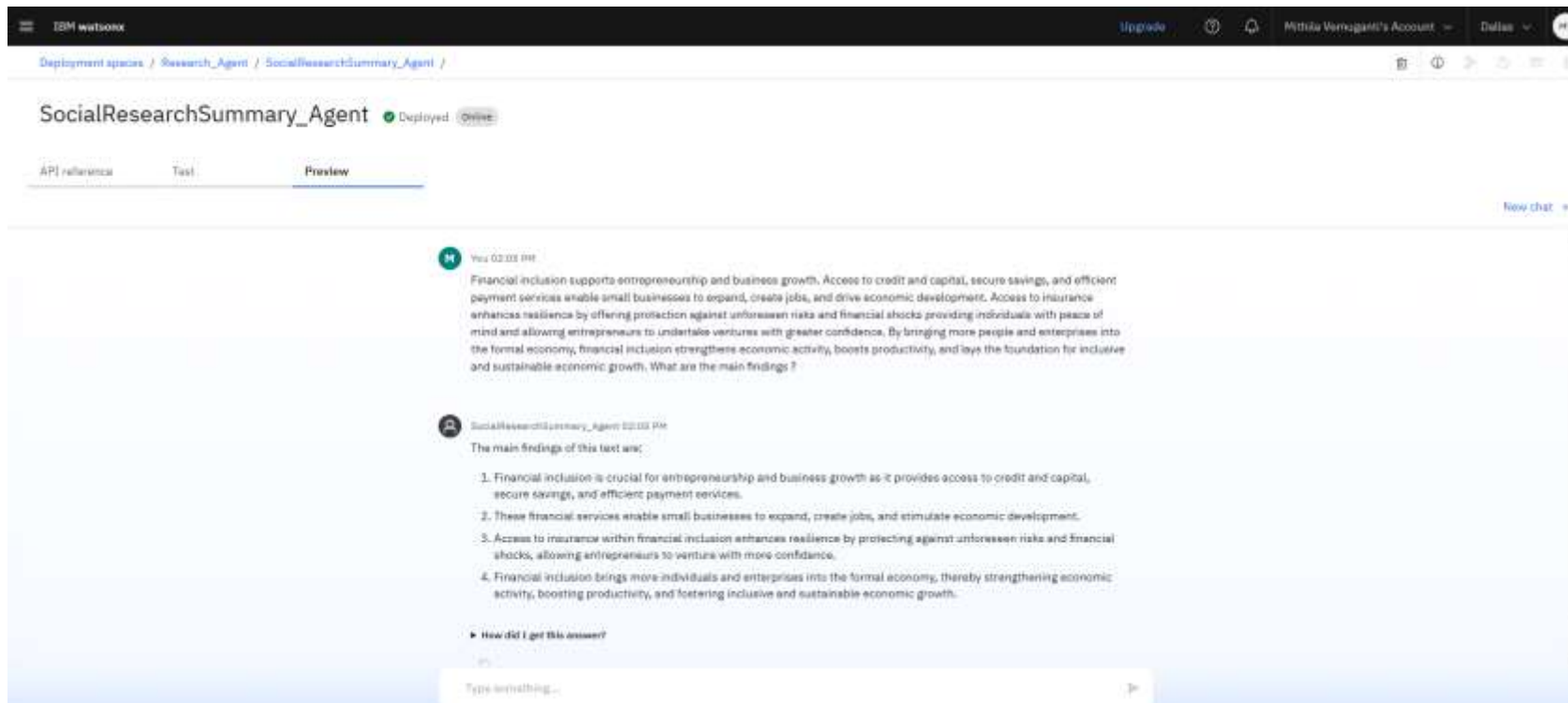
- Clarity: 9/10 (Both are very clear)
- Coverage: 8/10 (AI summary is mostly comprehensive but misses the sample size detail)

The AI summary is quite accurate and aligns well with the human-written abstract, demonstrating a good understanding of the research content. The primary difference lies in the level of detail regarding the sample size, which is explicitly mentioned in the human-written abstract but omitted in the AI summary.

► How did I get this answer?

# RESULTS

## Deployed AI Agent



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## CONCLUSION

- The Social Research Summary Agent assists in generating AI-based literature summaries and evaluating their quality against human-written abstracts.
- It reduces the manual effort involved in reviewing and drafting research content, especially for underserved domains like climate justice, education equity, and rural development.
- By using IBM Granite and Watsonx.ai, the agent boosts research productivity, enhances clarity, and supports evidence-based work for students, researchers, and public policy contributors.

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## GITHUB LINK

- <https://github.com/MithilaVemuganti/SocialResearchSummary-Agent.git>

# FUTURE SCOPE

- **Multilingual Summarization**

Enable users to interact and generate summaries in local/regional languages for wider accessibility.

- **Voice-Guided Interaction**

Add a voice assistant mode to allow hands-free research exploration.

- **Live Collaboration**

Allow multiple users (e.g., student and mentor) to co-curate, edit, or evaluate summaries together.

- **Intelligent Gap Detection**

Train the agent to identify underexplored areas in social research topics.

- **One-Click Publishing Support**

Integrate with research submission or preprint platforms to simplify workflow.

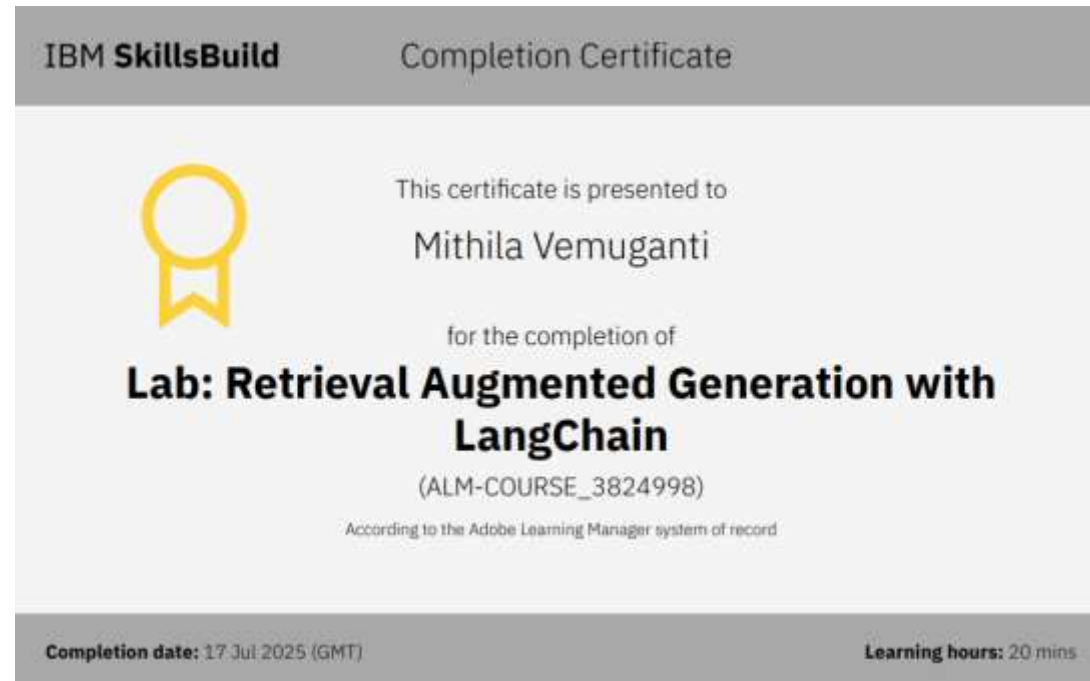
- **AI-Powered Paper Outlines**

Let users auto-generate structured paper skeletons based on selected summaries.

# IBM CERTIFICATIONS



# IBM CERTIFICATIONS







**THANK YOU !**