
CAPSTONE PROJECT

RESEARCH AGENT

Presented By:
Ramya Pustakala-Osmania University-BCA

OUTLINE

- **Problem Statement** (Should not include solution)
- **Proposed System/Solution**
- **System Development Approach** (Technology Used)
- **Result (Output Image)**
- **Conclusion**
- **Future Scope**
- **References**

PROBLEM STATEMENT

- Academic and scientific researchers often struggle with the overwhelming volume of information available, making it difficult to stay updated and identify relevant sources. Conducting thorough literature reviews is time-consuming and requires sifting through numerous papers to extract useful insights. Additionally, managing and organizing references accurately can be complex and tedious, especially when adhering to various citation styles. Writing research documents also demands integrating diverse information clearly and coherently, which can be challenging. These combined difficulties slow down the research process, reduce productivity, and hinder the ability to focus on innovative and critical analysis.

PROPOSED SOLUTION

The proposed solution to these challenges is the development of an AI-powered Research Agent that automates and streamlines the research process. This intelligent system can efficiently search and retrieve relevant literature from multiple databases, reducing the burden of information overload.

- Summarize complex papers to highlight key insights, saving time during literature reviews.
- Enable the agent to assist in drafting and organizing research content, allowing researchers to focus on critical analysis and innovation while improving productivity and research quality.
- By handling repetitive and time-consuming tasks, the Research Agent enhances productivity, accuracy, and overall research quality.

SYSTEM APPROACH

The "System Approach" section outlines the overall strategy and methodology for developing and implementing the research agent system. Here's a suggested structure for this section:

- System requirements

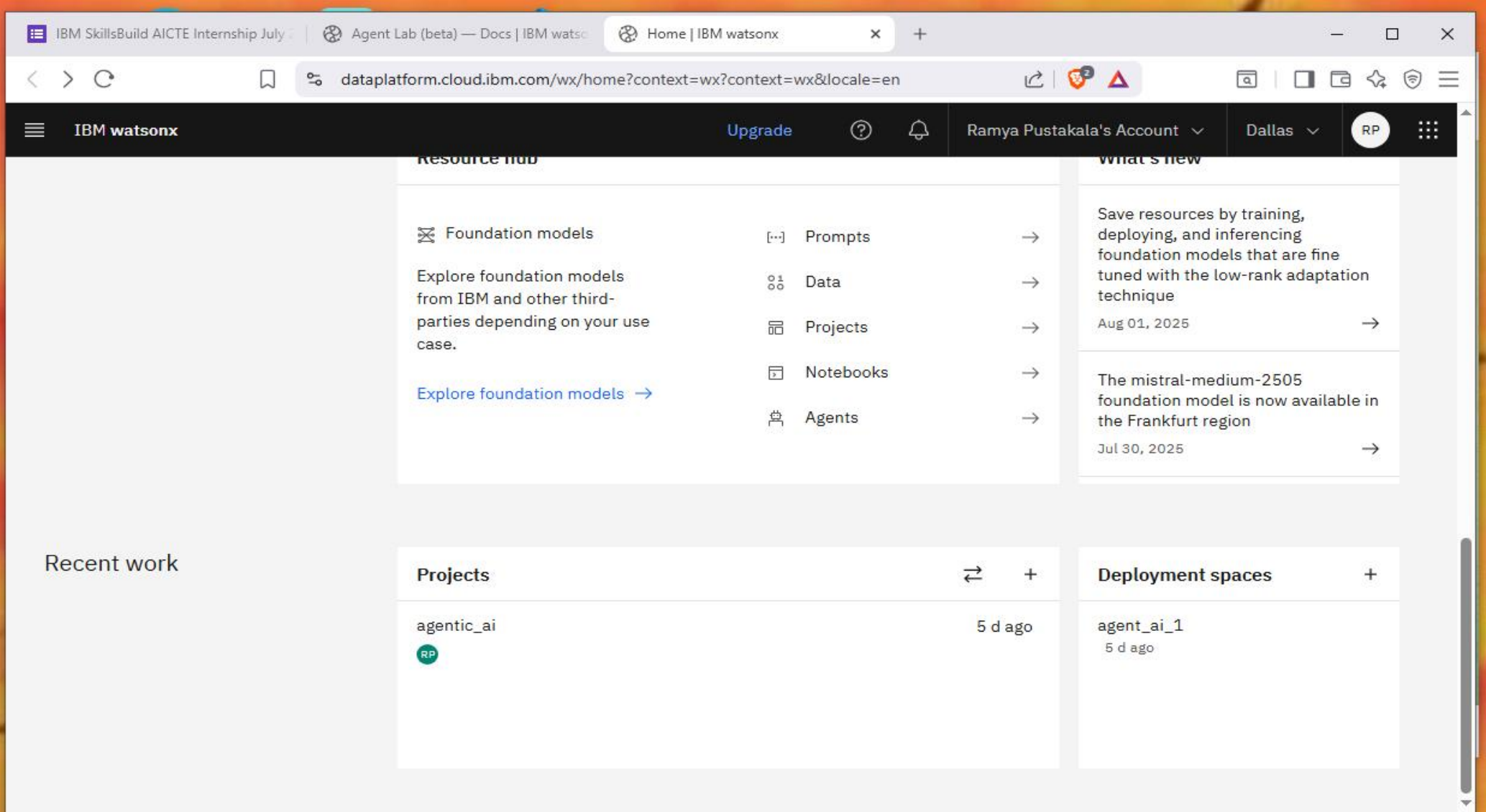
IBM CLOUD

- Library required to build the model

WATSONX.AI

RESULT

- This result illustrates the Research Agent's ability to understand user queries, retrieve essential information, and present it in an organized, user-friendly manner. It confirms the agent's value in automating literature review tasks, thus streamlining the research process and enhancing productivity for academic users.



CONCLUSION

- The Research Agent project successfully demonstrates the potential of AI to transform academic and scientific research. By automating literature search, summarization, reference organization, and content drafting, the agent significantly reduces the time and effort researchers spend on routine tasks. This enables users to focus more on critical analysis and innovation. The project highlights how natural language processing can make research more accessible, efficient, and productive, ultimately advancing the quality and impact of scholarly work across diverse fields.

FUTURE SCOPE

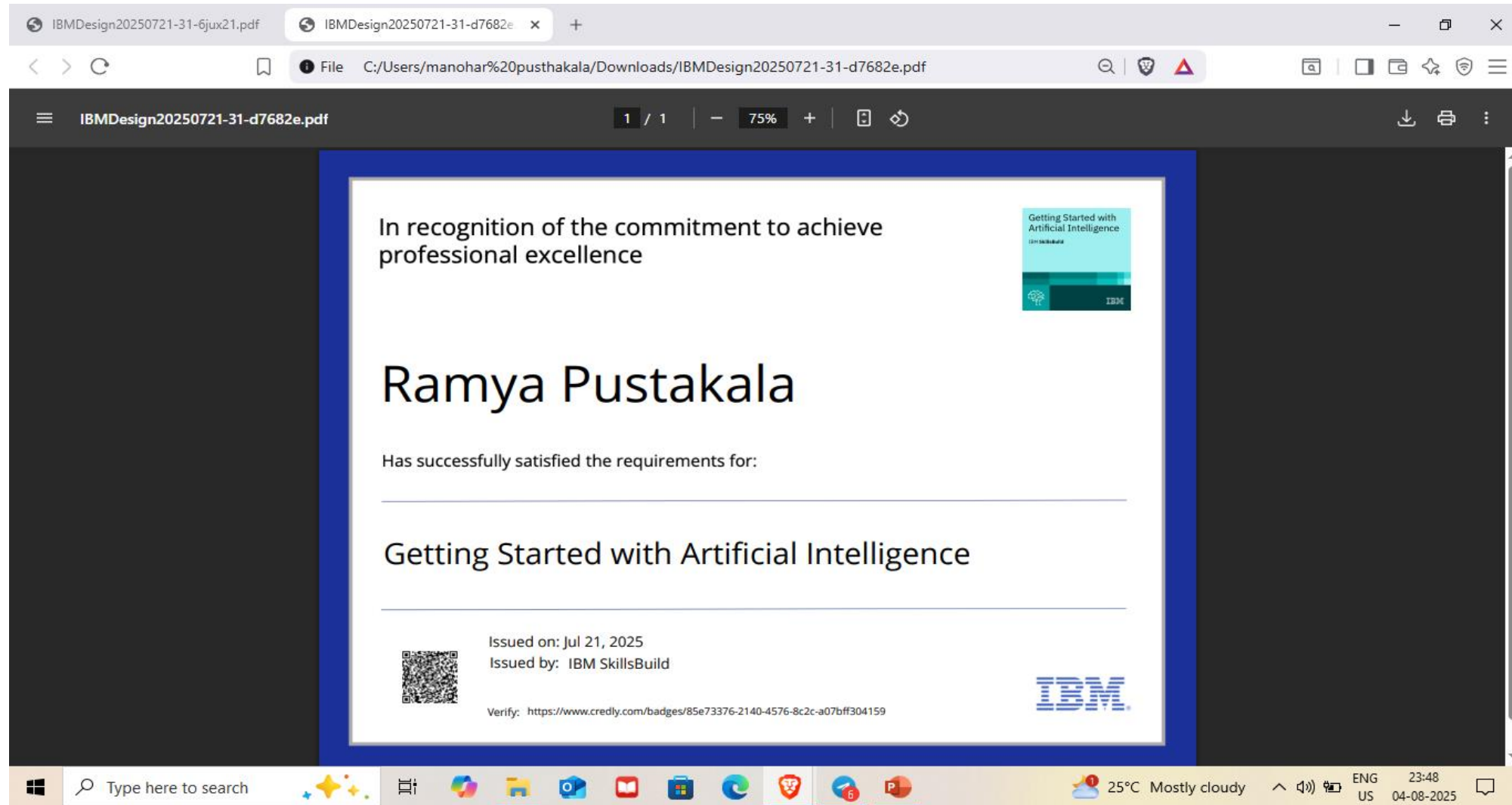
The Research Agent includes supporting multiple languages, improving its ability to understand data, and adding features for team collaboration. It can also offer personalized research suggestions and help with designing experiments. Integrating with popular academic tools will make research easier and faster.

REFERENCES

- The project leverages IBM watsonx's AI capabilities and integrates advances in natural language processing and automated research tools to enhance academic workflows..

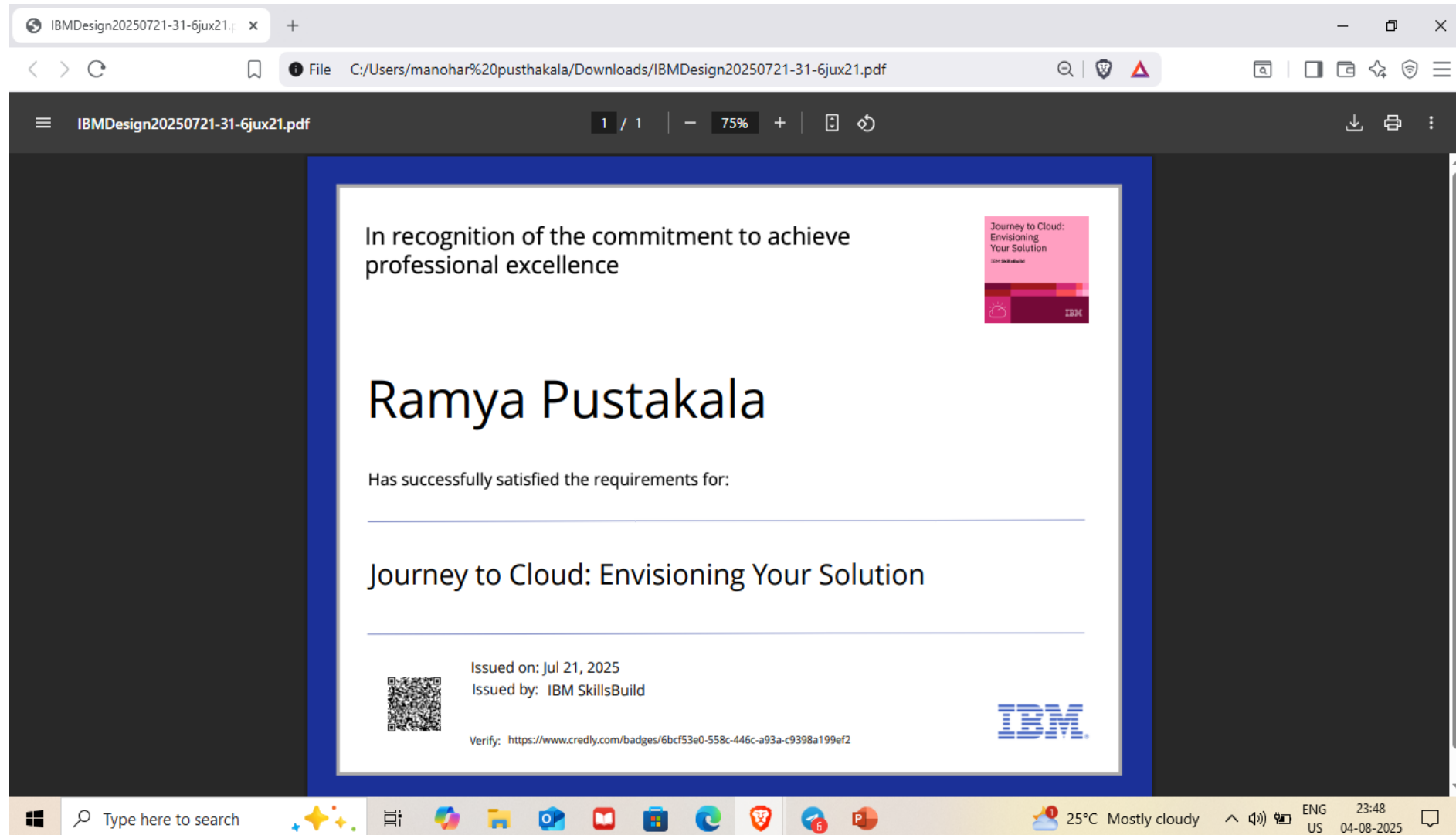
IBM CERTIFICATIONS

Screenshot/ credly certificate(getting started with AI)



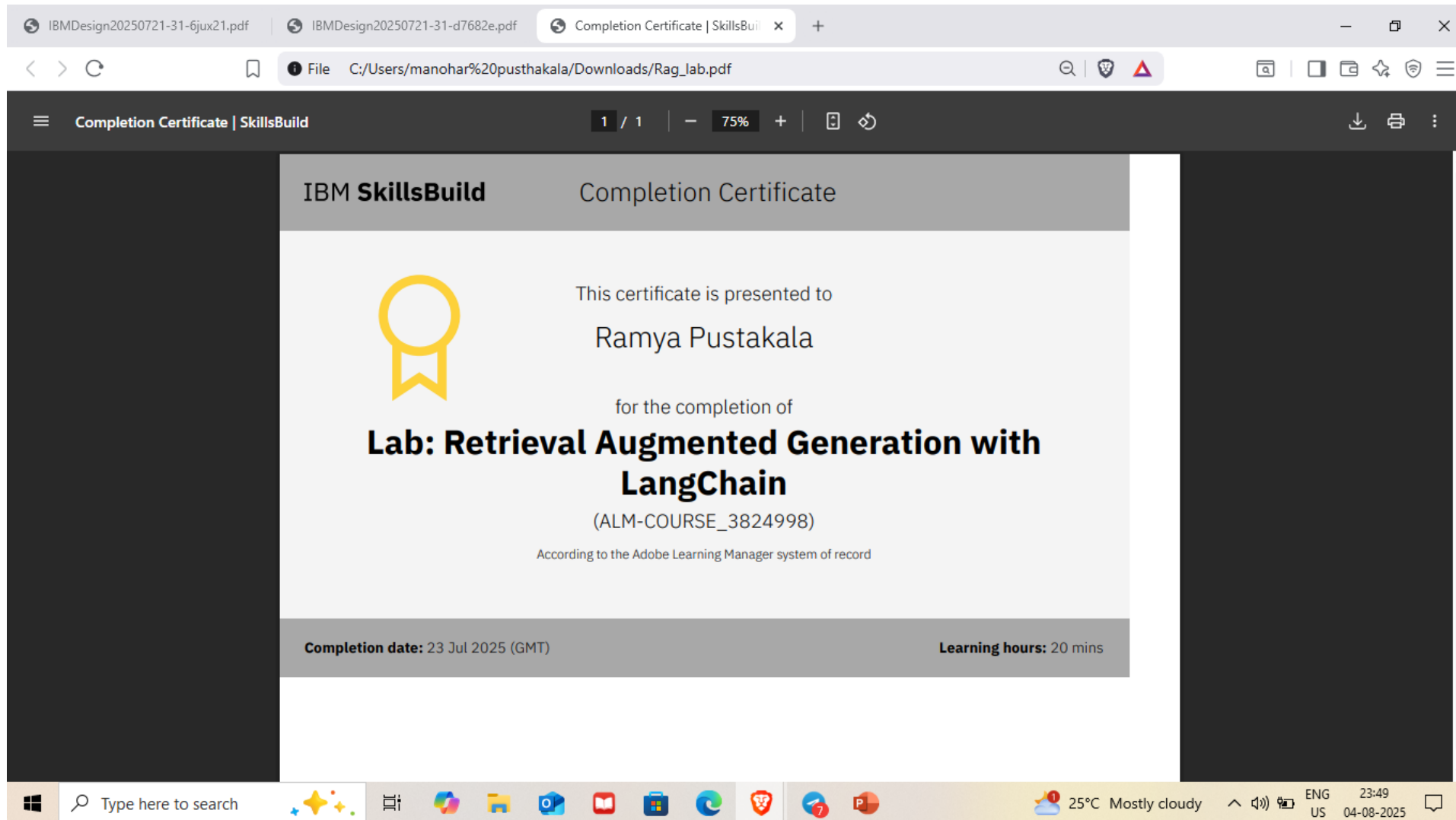
IBM CERTIFICATIONS

- Screenshot/ credly certificate(Journey to Cloud)



IBM CERTIFICATIONS

■ Screenshot/ credly certificate(RAG Lab)





THANK YOU