IBM HACKATHON PROJECT

AI-DRIVEN PLAGIARISM INTELLIGENCE FOR ASSIGNMENTS

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OUTLINE

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PROBLEM STATEMENT

Academic institutions face growing challenges in detecting nuanced forms of plagiarism, especially those paraphrased or AI-generated. Traditional tools often: Lack contextual understanding,Ignore instructor-specific grading styles ,Cannot learn from past submissions or feedback..

Proposed Solution:

Develop an AI-powered plagiarism detection agent using IBM Watsonx.ai and Granite foundation models. This system: Learns from historical submissions and instructor feedback. Identifies paraphrased or AI-generated content. Provides dynamic, context-sensitive plagiarism analysis.

TECHNOLOGY USED

Natural Language Processing (NLP)

Retrieval-Augmented Generation (RAG)

Vector Embeddings

Prompt Engineering

Semantic Similarity Detection

AI Content Classification Cloud Functions or App Runtime

IBM CLOUD SERVICES USED

- IBM Watsonx.ai Studio
- IBM Granite Foundation Models
- IBM Cloud Object Storage
- IBM Watson Machine Learning
- IBM Cloud Functions
- IBM Cloud Agent Lab

WOW FACTORS

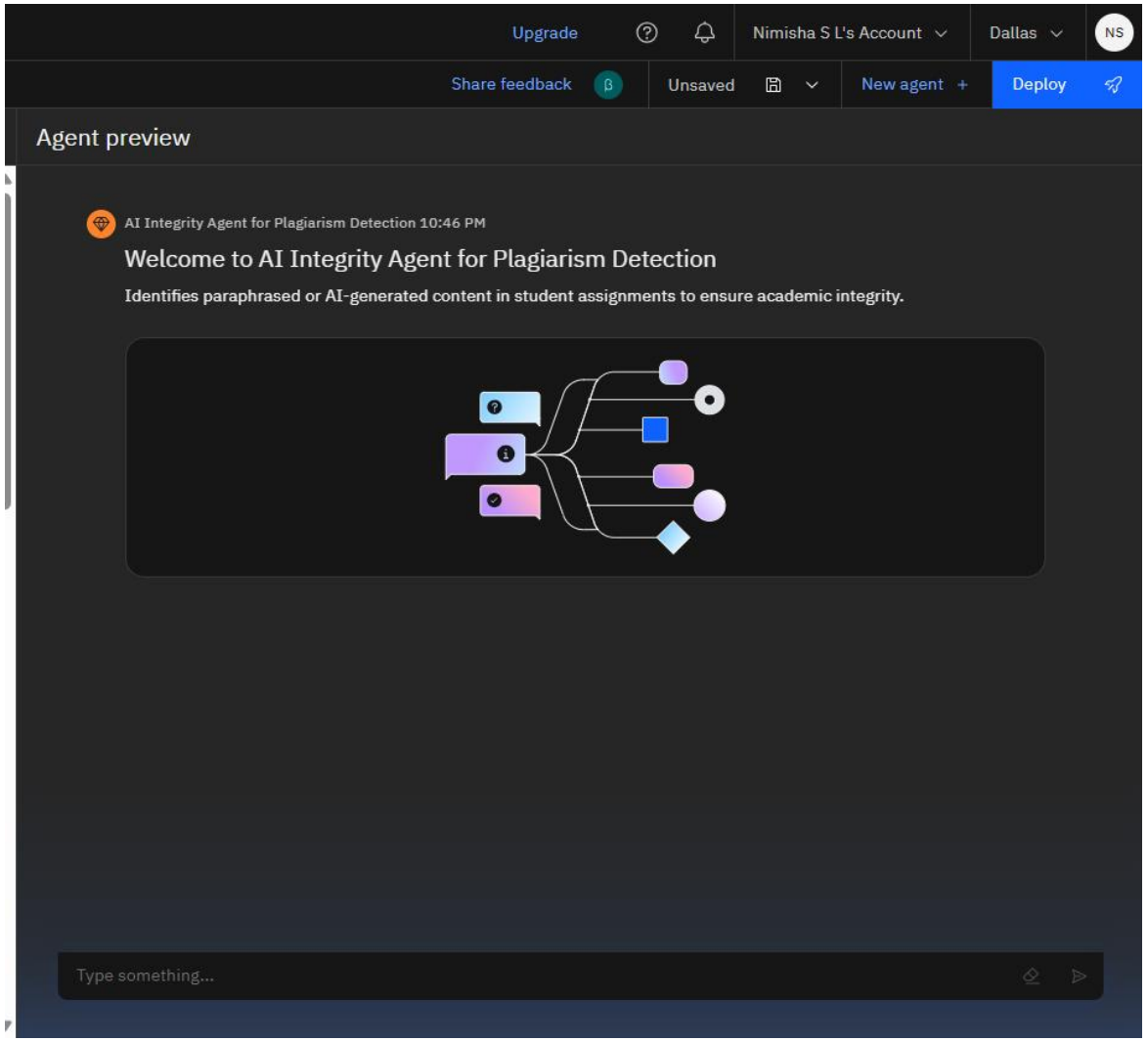
- Learns and adapts to instructor-specific grading and writing patterns to increase detection accuracy
- Detects paraphrased content even when reworded with advanced language or AI tools
- Identifies and flags AI-generated content using contextual prompt evaluation
- Generates similarity scores along with clear explanations for each flagged section
- Suggests alternative phrasing to help students rewrite potentially plagiarized content
- Can be integrated with Learning Management Systems (LMS) like Moodle or Canvas for seamless assignment checks

END USERS

- University Professors – to evaluate assignment originality
- Academic Institutions – to maintain academic integrity
- Students – to verify and improve originality before submission
- Examination Boards / Admins – for auditing and review

RESULTS

- AI Integrity Agent for Plagiarism Detection successfully configured using the granite-3-3-8b-instruct model.
- It is ready to identify paraphrased or AI-generated content in student submissions to uphold academic integrity.



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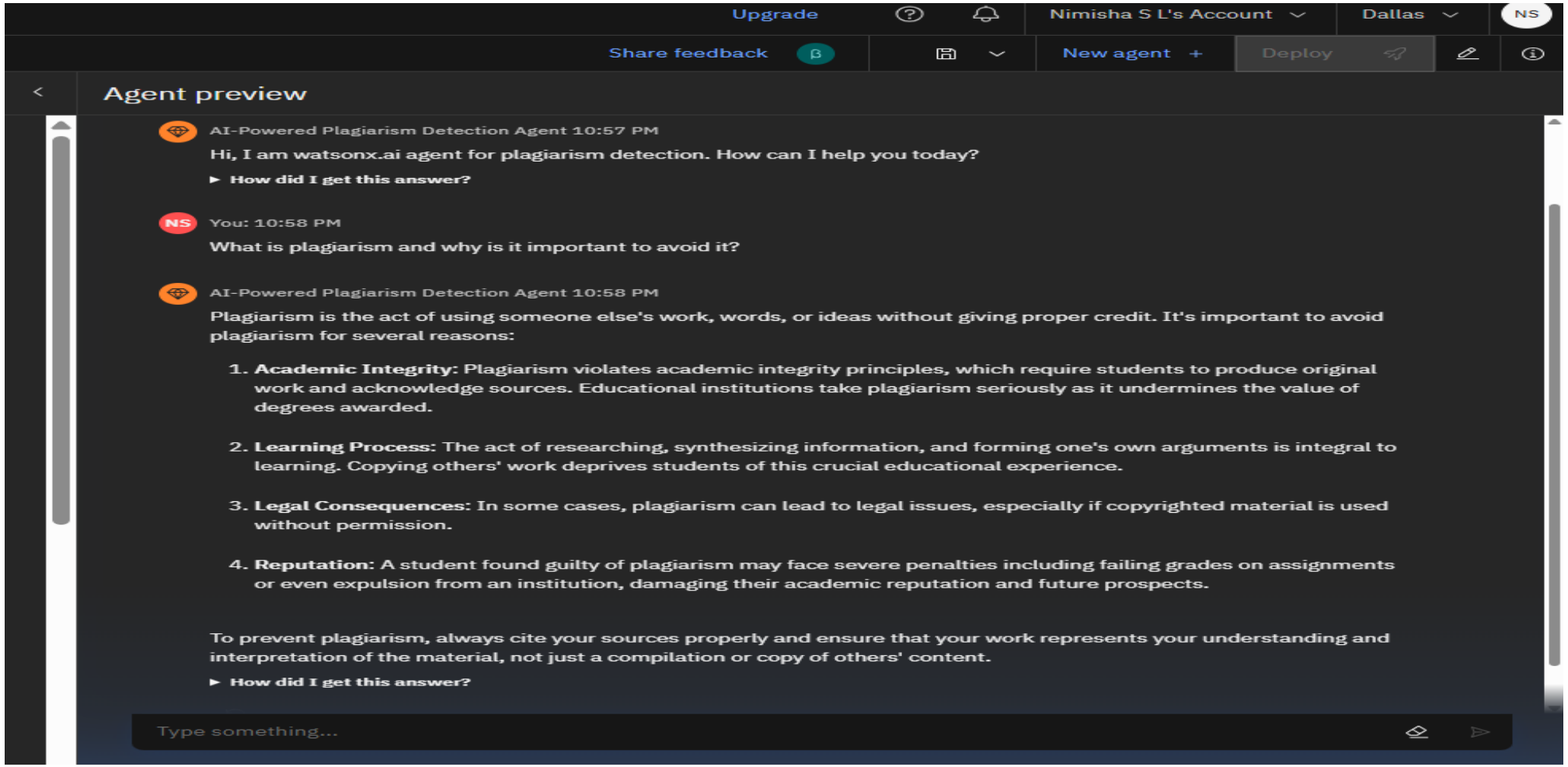
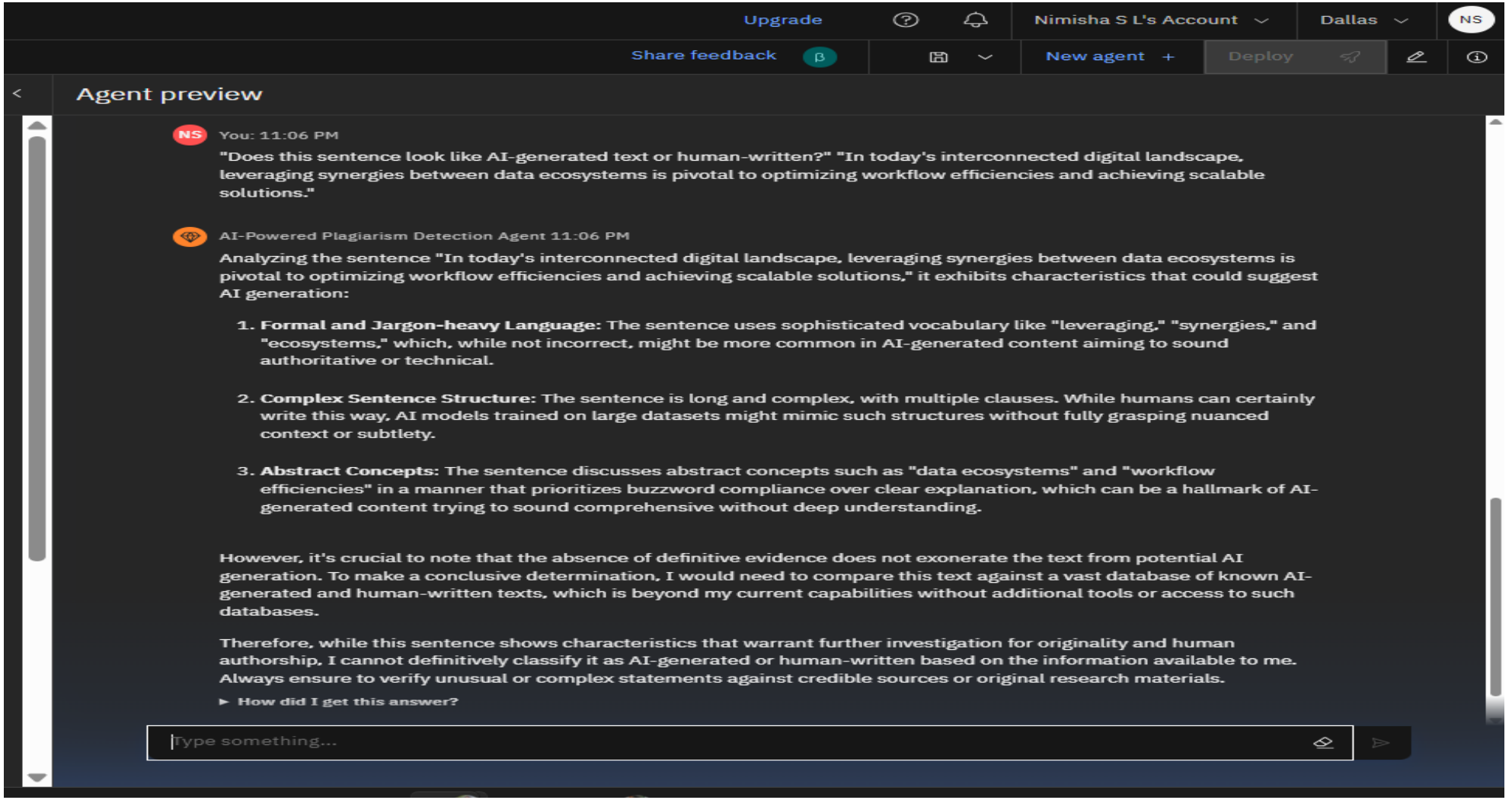
RESULTS



RESULTS



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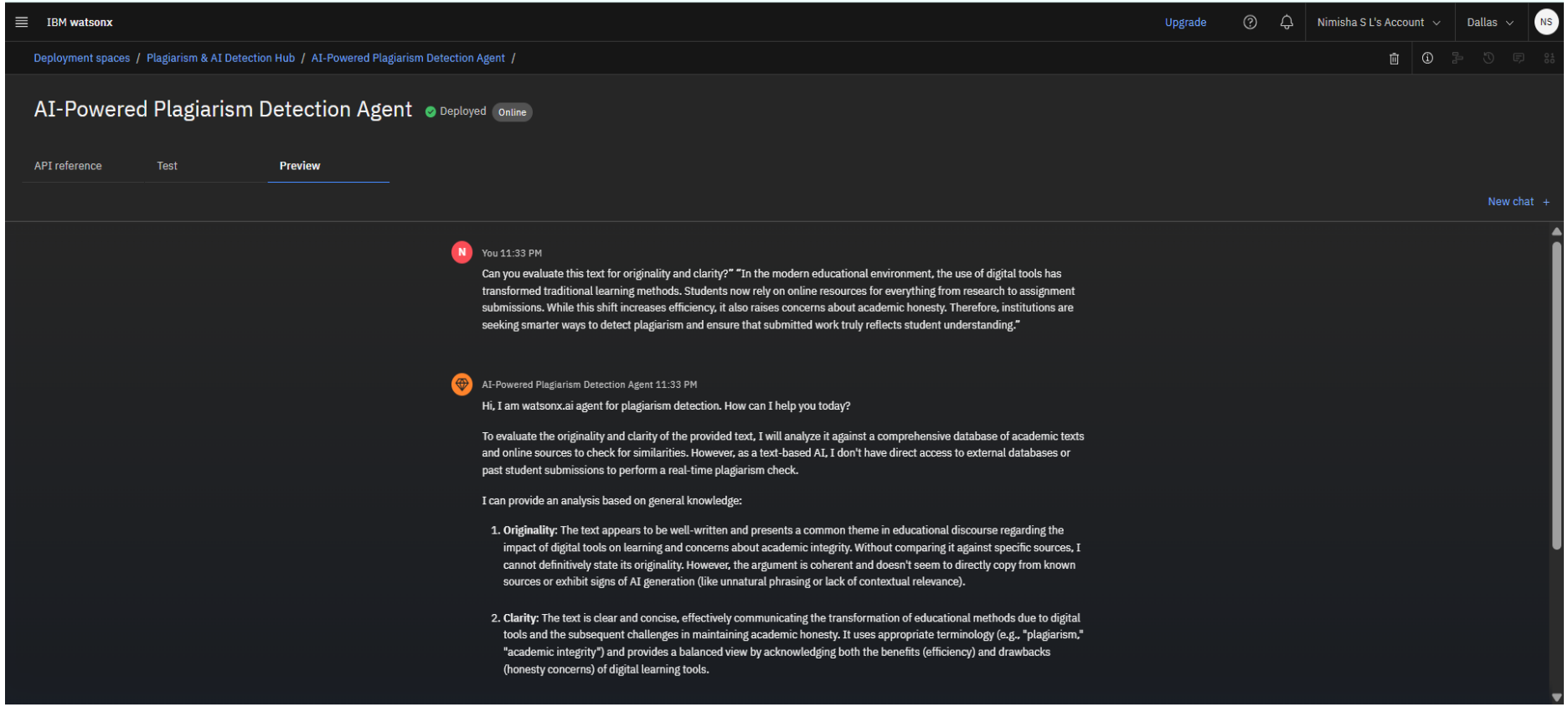
RESULTS

Deployed AI Agent



CONCLUSION

- The AI agent helps automate plagiarism detection with contextual sensitivity.
- Enhances fairness and academic quality.
- Saves instructor time, reduces false positives, and discourages misuse of AI tools.
- Supports originality improvement through rewrite suggestions.

GITHUB LINK

https://github.com/nimishaaaaa27/AI-Driven-Plagiarism-Intelligence-for-Assignments

FUTURE SCOPE

- Multilingual content support
- Real-time voice-based assignment checks
- Cross-institutional plagiarism network
- LMS and Turnitin plugin integration
- Mobile/web student originality checker
- Research paper similarity analysis

IBM CERTIFICATIONS

IBM **SkillsBuild** Completion Certificate

This certificate is presented to

Nimisha SL

for the completion of

Lab: Retrieval Augmented Generation with LangChain

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 23 Jul 2025 (GMT)

Learning hours: 20 mins

THANK YOU

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