

Ishani Kathuria

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EDUCATION

Purdue University Northwest

Master of Science in Applied Artificial Intelligence (GPA: 4.0/4.0)

Aug 2025 – May 2027

Hammond, Indiana, USA

Amity University

Bachelor of Technology in Artificial Intelligence (GPA: 9.09/10.0)

Jul 2019 – Jul 2023

Noida, Uttar Pradesh, India

EXPERIENCE

Purdue University

Artificial Intelligence Research Assistant

Sep 2025 – Present

Hammond, Indiana, USA

- Conducting applied research on **Retrieval-Augmented Generation (RAG)** systems, focusing on retrieval quality, hallucination reduction, and end-to-end latency optimization for LLM-based applications.
- Evaluating retrieval strategies using Recall@K and nDCG to optimize real-world question answering performance.

Amazon Web Services

Software Development Engineer

Bangalore, Karnataka, India

- Built and deployed **LLM-based log summarization** systems for production services, reducing root-cause analysis time from 2.5 hours to 30 minutes.
- Designed internal **AI chatbots** for developer support workflows, improving resolution efficiency for routine operational queries by 40%.
- Automated region-build and deployment pipelines for 15+ OpenSearch services using AWS infrastructure tooling, reducing manual intervention by 80% and accelerating launch timelines by 3 weeks.
- Developed proactive anomaly and bug detection systems to identify failures pre-release, reducing external customer-reported issues by 30%.

Jul 2023 – Jul 2025

Planet E-Com Solutions

Data and Algorithm Lead

May 2022 – Jul 2022

Gurgaon, Haryana, India

- Engineered web scraping pipelines and data processing algorithms in Python to improve the accuracy of education consultation software.

Deloitte

Artificial Intelligence Automation Intern

Jun 2022 – Jul 2022

Remote, India

- Developed hybrid RPA solutions using Automation Anywhere and Python, automating complex internal reporting tasks.

Docplus Online

AI Developer & Lead

Jul 2021 – Nov 2021

Remote, India

- Engineered Python-based AI pipelines for translation models and gender identification, coordinating technical implementation across 40+ developers.

PROJECTS

TrustworthyRAG

- Designed a query-adaptive learned fusion (QALF) mechanism to dynamically route queries across vector, graph, and keyword retrieval systems.
- Built a multimodal knowledge graph ingesting unstructured text and images to enable multi-hop reasoning and complex retrieval workflows.

AutoRedTeam

- Engineered a multi-agent adversarial evaluation framework (Attacker, Target, Judge) to stress-test LLM safety and robustness.
- Implemented provider-agnostic LLM integrations (GPT-4, Gemini, Llama 3) with a real-time React-based visualization interface.

DeepFakeGuard

- Built a client-side AI forensic tool using Transformers.js to detect synthetic audio directly in-browser, preserving user privacy.
- Optimized streaming inference pipelines to achieve sub-second latency without server-side dependencies.

SKILLS & CERTIFICATIONS

- Generative AI:** Large Language Models (LLMs), RAG, Fine-Tuning, Multi-Agent Systems, Prompt Engineering, LangChain, HuggingFace
- ML Frameworks:** Ollama, PyTorch, TensorFlow, Scikit-learn
- Programming:** Python, GoLang, TypeScript, Java
- Cloud & MLOps:** AWS (Bedrock, Lambda, ECS, Step Functions, CloudFormation, CloudWatch), Azure
- Web & Data Science:** React, Flask, Django, Pandas, NumPy, Tableau, Matplotlib, Seaborn
- Certifications:** AWS Certified AI Practitioner, AWS Certified Cloud Practitioner

PUBLICATIONS

[Conversational AI for Supporting Children with Autism](#) (Springer 2025) | [Temperature Based Food Recommendation using AI](#) (IEEE 2023) | [Deep Learning in Healthcare](#) (Springer 2023) | [PM2.5 Prediction using Azure ML Studio](#) (IEEE 2022)