Ishitaa Jain

(513) 537-7999 | jainid@mail.uc.edu | linkedin.com/in/ishitaajain1 | github.com/ij5204 | https://portfolio-ishitaa-jain.vercel.app

Summary

Computer Science student with experience in developing AI-driven applications through the use of retrieval-augmented generation (RAG), created secure back-end systems and cloud integrated platforms at scale. My skills and past experience include developing a full stack solution with authentication/database integration and CI/CD workflow processes in addition to having an interest in building enterprise systems powered by AI and Intelligent Operations Platforms.

Education

University of Cincinnati — Cincinnati, OH
Bachelor of Science in Computer Science — *Aug 2022 – May 2027*

Work Experience

Cybersecurity Research Intern – TCAAI, IIT Bombay -India — Jan 2025 - May 2025

- Simulated 10+ adversary tactics using Caldera & Atomic Red Team (spearphishing, PowerShell misuse, process injection).
- 30% improvement in endpoint visibility by developing OSQuery-based detections mapped to MITRE ATT&CK.
- Deployed Sandcat agents for real-time monitoring of malicious behaviors across Windows & Linux.
- Configured advanced event logging pipelines and enhanced anomaly detection.
- Integrated detection outputs into SIEM dashboards (Splunk/ELK).
- Collaborated with content strategists, UX designers, and QA to launch a training portal for internal staff.

Teaching Assistant (TA) – University of Cincinnati — Jan 2024 - Apr 2024

- Guided 100+ first-year students in Python programming, MATLAB scripting, and Excel automation.
- Supported faculty during lectures; shared practical insights with peers.
- Graded assignments & exams.
- Provided feedback on written assignments, emphasizing clarity and critical thinking.

Projects

Adaptive RAG Reliability – LLM Evaluation Research — **Jan. 2026 - Present**

- Designing an evaluation framework to measure hallucination and correctness errors in RAG systems.
- Built structured run-logging pipelines with automated EM/F1 to assess reliability across varied retrieval conditions.
- Generated adversarial test cases and performed retrieval quality analysis to identify failure modes and improve robustness.

Signal Classification & Feature Engineering – Machine Learning Project — **Dec. 2025 - Present**

- Developed a supervised ML pipeline to classify sensor-derived signals using Python, NumPy, Pandas, and Scikit-Learn.
- Engineered statistical and time-series features such as energy, MAV, waveform length, and zero-crossing metrics.
- Trained and compared models including KNN, Logistic Regression, and SVM to select the best-performing classifier.
- Visualized data patterns and model decision boundaries with Matplotlib to interpret feature effectiveness.

UC DoubtClear – Q&A platform for UC students with AI integration — **June 2025 - Oct. 2025**

- Built a real-time student doubt portal with secure auth, role-based access, and instant updates using Supabase RLS.
- Developed a responsive frontend in React (Vite) + TailwindCSS with modular components and live question feeds.
- Integrated Langfuse for live prompt tracing, token usage logging, and debugging across GPT-4o agents.
- Designed and deployed a RAG-based assistant with memory and embedding-driven retrieval to power knowledge workflows.

CryptoApp – Secure encryption/decryption platform — **Feb 2025 - April 2025**

- Implemented file/message encryption & decryption with symmetric (AES) and asymmetric (RSA) methods.
- Built a Rust backend with Supabase for authentication, user management, and encrypted file storage.
- Designed a React/Svelte frontend with JWT-based authentication and role-based access control.
- Integrated hashing (SHA-256) for data integrity and ensured secure key management.

Skills

Programming Languages: Python, C++, C#, Java, JavaScript, MATLAB, LabView, TypeScript, PHP, SQL
Frameworks & Development: .NET, React.js, Node.js, Express.js, Django, Flask, REST APIs, GraphQL, HTML, CSS
Tools: OSQuery, Caldera, MITRE ATT&CK, Wireshark, Splunk, Metasploit, OpenSSL, JWT Authentication
AI/ML & Data Science: TensorFlow, PyTorch, Scikit-Learn, Transformers, NumPy, Pandas, Matplotlib, RAG, NLP
Cloud & DevOps: AWS, Azure, Kubernetes, GCP, Docker, Jenkins, GitHub, Kubeflow, CI/CD
Databases: MySQL, PostgreSQL, MongoDB, Redis, Supabase, BigQuery