

Rashanjot Kaur

Applied AI Engineer/Researcher building multi-agent RAG systems, LLM evaluation, and grounded, reliable outputs.

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Experience

Cleveland Clinic

Cleveland, OH

AI Research Engineer, Dept. of Plastic Surgery (Dr. Graham Schwarz, MD)

Nov 2025 – Present

- **GRADE** (Guideline Reasoning and Drafting Engine)
 - Implementing a 20+-node LangGraph pipeline drafting WHO/Cochrane-aligned evidence-based clinical guidelines in **hours** vs. **6–18 months** manual; risk-of-bias appraisal (RoB 2 / ROBINS-I / AMSTAR-2), random-effects meta-analysis, and GRADE certainty rating, with every quantitative claim grounded in extracted source data.
 - Reproducible, checksummed run artifacts re-runnable from any stage; **35+** prompts versioned via Prompt Management (clinician-editable, no redeploys); SSE streaming to UI.
- **specialistRAG**
 - Built a multi-agent system that breaks each medical question into focused sub-queries and routes them to the most relevant specialty agents, run in parallel (Strands Agents).
 - Curated the evidence base – screened **~70K** PubMed papers with an LLM for relevance and parsed full text (including tables and figures) into **1M+** hybrid Pinecone vectors; added citation data and removed retracted studies.
 - Ranked studies by relevance, citations, recency, journal quality, and evidence level, and produced evidence summaries with inline source citations that surface **consensus and contradictions** across studies.

AnacodicAI Labs

Boston, MA

Lead AI Architect & Initiated

Oct 2024 – Present

- Initiated and lead a **50+ member** volunteer-run nonprofit building production AI for underserved communities across healthcare, education, and livelihoods; faculty advisors at BU/Harvard/MIT; active collaborators: Boston Children's Hospital, Cleveland Clinic, and IISc Bangalore.
- Architected **5+** multi-agent production systems – **ClinicalSearch** (specialist evidence retrieval, pilot); **TerrierTA** (student Q&A and grading platform, **60% overhead reduction**); **SafeBite** (allergen-aware taste recommendations, **20+ restaurants**, India).
- Drove **16+** active research and product threads; built a structured contributor pathway from learning tutorials to peer-reviewed research to production deployments.

UnitedHealth Group (UHG)

Gurugram, India

Software Engineer

Jan 2022 – Aug 2024

- Implemented a custom BDD (Behavior-Driven Development) testing framework to validate role-based access, clinical record workflows, and configurations across 5+ healthcare domains; **~70%** reduction in QA cycle time.
- Onboarded 3+ business areas and enforced HIPAA/PHI-compliant, role-based access across 50+ patient-record fields (10+ clinical personas, **35K+ records/cycle**); earned the *Quality Kudos* award for consistently high-quality work.

Delhivery

Gurugram, India

Software Developer, Client Panel

Apr 2021 – Jan 2022

- Built serverless REST APIs on AWS (Lambda, API Gateway, Step Functions, S3) for Delhivery's logistics client portal; migrated **6,000+** clients' data to DynamoDB, cutting database cost **~80%** by moving to a pay-per-request model.

Research & Publications

Boston University

Boston, MA

Research Assistant, Prof. Eugene Pinsky & Prof. Kathleen Park

Feb 2025 – Present

- **Book (forthcoming):** *Humanitarian Logistics Innovation* – contributing evidence-grounded case studies from AnacodicAI deployments.
- **Publications: 3 published.**
 - **Carbon Cost of Intelligence (CCI):** weighted harmonic mean A/E metric for workload-specific LLM carbon; **4.3×** energy gap across 5 knowledge domains, **49%** potential savings via routing; DOI [10.3390/en19030642](https://doi.org/10.3390/en19030642).
 - **Operational Resilience under Carbon Constraints:** supply chain agentic system; Gradient Boosting models as agent tools (delay **F1 = 0.954**, on-time 0.976, cost $R^2 = 0.9998$) and K-Means across 3 logistics stakes tiers; per-package carbon-service metric; live at anacodicai.org/casp; DOI [10.3390/systems14040374](https://doi.org/10.3390/systems14040374).
 - **Distribution Shape Analysis via MAD and Quantile-Based Quadrature:** C-Trapezoid quadrature (7 octiles) as closed-form MAD integrals; **3–4×** lower error than midpoint, validated on pretrained LLM weight matrices (GPT-2, OPT-125M, Pythia-160M); DOI [10.3390/jeta4020020](https://doi.org/10.3390/jeta4020020).

Teaching Assistant, Dept. of Computer Science & Questrom School of Business

May 2025 – Dec 2025

- Graded and held office hours for graduate *Data Science with Python* and *Foundations of Machine Learning* – NLP, recommendation systems, clustering; **20+ students**.
- Evaluated venture pitches, business plans, and innovation frameworks for graduate *New Ventures* and *Design Thinking & Innovation*; **8+ teams**.

Technical Skills

Languages: Python, SQL, C++ ,R

Agentic AI & LLM Systems: multi-agent systems, agentic workflows, LangGraph, LangChain, Strands Agents, MCP, AWS Bedrock & AgentCore, Hugging Face, large language models (LLMs), retrieval-augmented generation (RAG), prompt engineering, LLM evaluation & observability, vector stores (Pinecone, FAISS), Guardrails.

ML & Deep Learning: PyTorch, scikit-learn, XGBoost, DPO fine-tuning, GNNs, CNNs, LSTMs, transformers, vision transformers (ViT, DINOv2), clustering, classification, regression, A/B Testing

Cloud & Infra: AWS (S3, Lambda, DynamoDB, CDK, Cognito, ECR), Docker, FastAPI, CI/CD

Education

Boston University

Boston, MA

MS Computer Science (Applied Data Analytics Concentration), GPA: **3.96 / 4.0**

Sep 2024 – Jan 2026

Coursework: Advanced Machine Learning & Neural Networks, Data Mining, Web Mining & Graph Analytics, Algorithms, Data Warehousing, Foundations of Machine Learning.

Indian Institute of Information Technology, Allahabad (IIIT-A)

Allahabad, India

B.Tech, Electronics & Communication Engineering, GPA: **8.39 / 10**

Jul 2017 – Jun 2021

Coursework: Data Structures & Algorithms, Probability & Statistics, Database Management Systems, Object-Oriented Programming.