AKANKSHA GARG

Applied ML / Data-Focused Software Engineer

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Education

Rochester Institute of Technology (RIT)   Expected Dec 2026
M.S. Computer Science   GPA: 3.6 / 4.0
Relevant Coursework: Machine Learning Systems, Big Data Analytics, Computer Vision, Algorithms

Thapar Institute of Engineering & Technology   2017
B.E. Electronics, Instrumentation & Control   GPA: 3.3 / 4.0

Technical Skills

Languages: Python, C++, JavaScript, SQL, Bash
Machine Learning: Supervised Learning, Feature Engineering, Model Evaluation, Clustering (DBSCAN), PCA, Transformers, DINOv2
Data & Systems: ETL Pipelines, Data Modeling, REST APIs, Performance Optimization
Databases & Cloud: PostgreSQL, AWS (EC2, S3, IAM), Supabase
Tools: Git/GitHub, Docker (working knowledge)

Projects

PantryPal — AI-Powered Pantry & Recipe Platform   Spring 2025
Founder — Software Engineer (Applied ML)

- Built and deployed a full-stack system converting pantry inventory into personalized recipe recommendations.

- Designed end-to-end architecture: REST APIs, authentication, PostgreSQL schemas, and data pipelines.

- Integrated AI-based retrieval and ranking logic; iterated using user behavior signals and evaluation metrics.

EmergencyIQ — Large-Scale Analytics Pipeline   Summer 2025

- Built analytics pipeline processing 663K+ real-world emergency records with normalized schemas.

- Applied DBSCAN and PCA to identify operational inefficiencies; reduced query latency from 45s to 1s.

- Optimized memory usage by 73% using chunked processing and data-aware design.

Weather Prediction System — ML from Scratch   Spring 2025

- Implemented Decision Tree and Random Forest algorithms from scratch in Python.

- Scraped and processed 1,197 CF6 weather reports; engineered 34 temporal and statistical features.

- Evaluated performance across 40+ hyperparameter configurations and documented tradeoffs.

Experience

Garg Fertilisers — Operations & Analytics Lead (Process Automation)   2017 – 2024

- Designed and deployed process automation and analytics pipelines across production operations.

- Built data-driven models for pricing, yield prediction, and operational optimization.

- Integrated PLC/SCADA systems with monitoring dashboards to improve throughput and reliability.

- Translated analytical insights into production decisions under real-world constraints.

Research & Development Intern — Indian Institute of Nuclear Medicine & Allied Sciences, DRDO 2017

- Conducted signal acquisition and processing using MATLAB and EEGLAB.

- Applied Independent Component Analysis (ICA) for artifact removal in cognitive research data.

Certifications & Awards

- **Professional Certificate in Full-Stack Development with GenAI** — IIT Madras

- **Core CS Training:** System Design, Database Management Systems (DBMS), Operating Systems

- **National Talent Search Scholar (NCERT)** — Top 0.16% nationwide