

Rajeev Atla

Machine Learning Engineer | GenAI, RAG & Search Systems Specialist

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EDUCATION

Rutgers University - School of Engineering

Sep 2025 — Present

Master of Science in Computer Engineering (Specialization in Machine Learning)

New Brunswick, NJ

Coursework: Multimodal AI, Reinforcement Learning, Machine Vision, High Performance/Distributed Computing

Rutgers University - School of Engineering

Sep 2021 — May 2025

Bachelor of Science (Triple Major) in Computer Engineering, Computer Science, and Data Science

New Brunswick, NJ

Recipient of the Eleanor and Samuel Sneath Endowed Merit Scholarship for Engineering Students

Coursework: AI, ML, Distributed Deep Learning, Data Science, Robotics and Computer Vision, Info and Network Security

SKILLS

- **Programming Languages**: Python, R, SQL, Java, C/C++/CUDA, JavaScript/TypeScript, Rust, Bash
- **AI/ML**: NumPy, PyTorch, JAX, TensorFlow, Keras, Pandas, Scikit-Learn, OpenAI API, LangChain/LangGraph, OpenCV, DSPy, RAG, HuggingFace (Transformers, Tokenizers, Datasets, Diffusers), vLLM, pgvector, Pydantic, FastAPI, NLTK, spaCy
- **Data Visualization**: Matplotlib, Seaborn, Plotly, Tableau
- **Cloud & DevOps**: AWS, Microsoft Azure, OCI, GCP, GitHub Actions (CI/CD Pipeline), Docker, Kubernetes, Slurm
- **Tools & Databases**: Jupyter, PySpark, Kafka, Git, Linux (Ubuntu), PostgreSQL, MongoDB, Jira, ROS2, Codex, Claude Code

CERTIFICATIONS

- **AWS**: [Certified Cloud Practitioner](#), [Certified Machine Learning Specialist](#), [Certified AI Practitioner](#)
- **Oracle (OCI)**: [AI Foundations Associate](#), [Generative AI Professional](#), [Data Science Professional](#), [Vector AI Search Professional](#)

WORK EXPERIENCE

AI Engineering Intern

May 2024 — Sep 2024

Atlait Inc.

Remote

- Developed a Python-SQL compression script for form data, **reducing storage costs by 7%** for enterprise clients
- **Accelerated mean response time by 96 milliseconds** by integrating PyTorch inference models into Kafka microservices
- Created a **> 1TB** RAG-PySpark system, utilizing A/B testing to evaluate and optimize AI-powered search accuracy
- Optimized CI/CD pipeline to **speed up build times by 13%** in an Agile environment, ensuring efficient development cycles

PROJECTS

raceformer

<https://bit.ly/raceformer>

- Engineered a high-fidelity “Real-to-Sim” validation pipeline processing **30GB of multimodal sensor data** (LiDAR, camera, radar) on 4x A100s, utilizing JAX-based vision-language model to generate ground truth scenarios for critical edge case simulation
- Achieved a **95% pass rate on safety metrics** by leveraging geometric priors to fine-tune RL policies, establishing clear performance baselines and **outperforming standard models by 35%** in collision avoidance testing

dexMCP

<https://bit.ly/dexmcp>

- Engineered Model Context Protocol (MCP) server exposing **5+ reusable tools** and **5+ Pydantic models**
- Implemented parameter validation across **20+ typed fields** and **100% of tool inputs**
- Built asynchronous clients using DSPy and LangChain to auto-discover tools and execute multi-step requests

DocuMint

<https://bit.ly/DocuMint>

- Built a 5-agent LangGraph + Gemini API doc-modernizer with Gradio, achieved **90%+ modernization coverage** on sample docs, **cut manual edit time by 50%** with a **4-tab UX**, hardened with **8 deterministic pytest cases** and network-safe skips
- Authored a modular multi-agent system with structured prompts and severity-prioritized research, **lifting modernization accuracy by 35%** and **trimming LLM API spend by 20%**

SuperconGAN

<https://bit.ly/3z7JaqZ>

- Built a PyTorch-based GAN to create synthetic superconductivity data of various materials, enhancing generative AI applications
- Extracted and processed **80,000+ dataset entries** from the UCI ML Repository using Pandas efficiently
- Released Python package on PyPI, achieving over **80,000 downloads** and widespread adoption