Rajeev Atla

AI/ML Engineer Building Secure, Scalable, & Complex Systems

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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, LLMs, 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, Hadoop/Hive, Git, Linux, PostgreSQL, MongoDB, Jira, MS Office, 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
- Engineered PyTorch inference models for real-time predictions, **optimizing latency by 96ms** and enabling faster decision-making
- Created a $>$ **1TB** RAG-PySpark system, utilizing A/B testing to optimize AI-powered search and recommendation accuracy
- Optimized Airflow-Hadoop data pipeline to **speed up analysis by 13%** in an Agile environment, speeding up development

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 neural path planning and risk avoidance

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%**

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

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