

# Rajeev Atla

AI/ML Engineer + Robotics Engineer (Shared Control, RL, Multimodal Driving, Safety-Critical Systems)

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## EDUCATION

### Rutgers University - School of Engineering

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

Sep 2025 — May 2027

New Brunswick, NJ

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

### Rutgers University - School of Engineering

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

Sep 2021 — May 2025

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), vLLM, pgvector, Pydantic, FastAPI, NLTK, spaCy, Codex, Claude Code
- **Data Visualization:** Matplotlib, Seaborn, Plotly, Tableau
- **Cloud & DevOps:** AWS, Microsoft Azure, OCI, GCP, GitHub Actions (CI/CD Pipeline), Docker, Kubernetes
- **Tools & Databases:** Jupyter, PySpark, Kafka, Git, Linux, PostgreSQL, MongoDB, Jira, MS Office, SharePoint

## 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

Remote

Altair Inc.

- 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 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