JONATHON MOORE

Full-Stack AI Engineer | Generative AI & Reinforcement Learning

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[LinkedIn Profile](#) • [GitHub Portfolio](#) • [jonathonmoore.net](#)

PROFESSIONAL SUMMARY

AI Engineer with deep expertise bridging **Cognitive Architectures** (RAG, Knowledge Graphs) and **Embodied Intelligence** (Reinforcement Learning). Proven track record of deploying production-grade, serverless AI solutions on **AWS** and designing complex Multi-Agent systems. Strong background in engineering rigor, evaluation frameworks, and leadership, demonstrated by ranking as a **top national performer** in sales and leading collegiate research initiatives.

TECHNICAL SKILLS

- **AI & ML:** Large Language Models (LLMs), RAG (Graph-RAG), Reinforcement Learning (PPO, MARL), Computer Vision (Detectron2, RCNN), Prompt Engineering.
- **Cloud & DevOps:** AWS (Lambda, Bedrock, S3, API Gateway, EC2), Serverless Architecture, CI/CD (Jenkins, GitHub Actions), Docker, Terraform.
- **Languages & Tools:** Python (PyTorch, Stable Baselines 3), JavaScript/TypeScript (Next.js), Godot (GDScript), Neo4j (Cypher), SQL, C/C++.
- **Hardware/Edge:** FPGA (Intel DE-10), Raspberry Pi, Embedded Systems, TinyML.

FEATURED ENGINEERING PROJECTS

Socratic Graph Tutor (LMS-AI)
Neo4j, Python, GLM-4, LangChain

- Engineered a **'Graph-RAG' architecture** to eliminate LLM hallucinations by grounding responses in a Neo4j Knowledge Graph.
- Developed a specialized prompt chain that enforces **Socratic teaching methods**, guiding users via questions rather than direct answers.

Neuro-Tag: Adversarial Multi-Agent RL
Godot 4, Python, Stable Baselines 3

- Architected a custom **Reinforcement Learning environment** where two PPO agents compete in a zero-sum tag game.
- Solved 'local maxima' behaviors by designing a tiered reward function based on velocity and spatial control.
- Achieved **emergent strategies** (juking, trajectory prediction) after 50k training steps using a shared-weight neural network.

Edu-Guard: AI Evaluation Framework
Python, Automated Testing, LLM Ops

- Built an automated evaluation pipeline to quantify AI performance, distinguishing between 'instructional quality' and hallucinations.
- Simulated diverse learner personas using a mock student database to stress-test the Socratic Tutor's adaptability.

Serverless RAG Portfolio (jonathonmoore.net)
AWS Lambda, Bedrock (Claude 3), Next.js

- Deployed a full-stack, serverless AI application with **'Scale-to-Zero' architecture** on AWS.
- Implemented a custom RAG pipeline injecting resume context into Claude 3 Haiku for real-time, low-latency user interaction.

Smart Garden & TinyML Gestures

Raspberry Pi, Computer Vision, Edge AI

- **Smart Garden:** Engineered an IoT system using Computer Vision to analyze plant health and autonomously adjust environmental controls via RL-based reward functions.
- **TinyML:** Deployed a lightweight gesture recognition model on edge hardware (Raspberry Pi) for real-time control input.

PROFESSIONAL EXPERIENCE

IT & CS Faculty (Research Director)
Salish Kootenai College | June 2024 – Present

- **Research Leadership:** Directing the 'Atmospheric Gravity Waves' project, utilizing Python to process large datasets and train ML models for wave pattern detection.
- **Curriculum Design:** Modernizing the CS syllabus to include **TinyML** and **Edge AI**, preparing students for the modern AI workforce.

Design & Sales Associate
Cynaxa | Nov 2023 – Dec 2024

- Designed and managed the installation of high-availability IT infrastructure for industrial clients.
- Authored comprehensive system documentation (SOPs), streamlining internal operations and reducing onboarding time.

Software Support Specialist
DAKCS | May 2023 – Nov 2023

- Automated manual data entry workflows by writing custom **SQL** and **IMS Basic** scripts, increasing department efficiency by 20%.

Python Backend Developer
Farmflight | Sept 2022 – Dec 2022

- Led the migration of a legacy JavaScript backend to **Python**, optimizing data processing speeds for agricultural analytics.
- Architected a **serverless image processing pipeline** on AWS Lambda to automatically tile and index large aerial datasets.

Machine Learning Intern
Zorrosign Inc. | Jan 2021 – Mar 2022

- Integrated Computer Vision models (**Detectron2, RCNN**) to automate document layout analysis and text-box detection.

Sales Representative
Vivint Smart Home | Summer 2019

- **Ranked #9 Rookie Nationwide:** Recognized as a top performer among thousands of new representatives. Demonstrated exceptional grit and resilience.

EDUCATION & CERTIFICATIONS

Software Engineering Curriculum
Grand Canyon University | 2020 – 2024

- **Achievements:** Completed comprehensive engineering curriculum, Senior Capstone, and 4 years of research.
- **Honors:** Provost List Scholar | AI/ML Club President | AWS DeepRacer Director.

AWS Academy Graduate
Machine Learning Foundations Certificate