Contact

oliveraellison@gmail.com

www.linkedin.com/in/oellison (LinkedIn)

Top Skills

AI Platform Architecture
Enterprise AI Strategy
Software Architecture

Languages

REACT.js (Full Professional)
JSON (Full Professional)
Swift (Full Professional)
Python (Full Professional)
SQL (Full Professional)
TensorFlow (Full Professional)
English (Native or Bilingual)
MongoDB (Full Professional)
node.js (Full Professional)
Pytorch (Full Professional)

Certifications

~Understanding the Impact of Deepfake Videos
Unreal Engine: ArchViz Terrain Techniques
Learning VR Photography and Video
Managing Jira Projects: 1 Introduction
Jira: Advanced Administration

Honors-Awards

Army Service Ribbon
Non-Commissioned Officer Professional Development Ribbon
Global War on Terrorism Service Medal
Meritorious Unit Commendation Medal
Army Good Conduct Medal

Oliver A. Ellison, MS SD

Principal AI Platform Engineer | Enterprise Multi-Agent Systems | Generative AI | RAG | MLOps | 5x Author | Army Veteran | Girl Dad
Mission, Texas, United States

Summary

I solve problems across many domains with agentic AI and deliver at scale. I build enterprise-ready multi-agent AI systems that ship, scale, and stand up to audits. I focus on production architecture, governance, and measurable outcomes: faster speed-to-lead, higher booking rates, reliable execution, and full audit trails.

Today I have dozens of shipped tools and working apps across agentic orchestration, RAG pipelines, and AI governance. They run on solid backends with policy-as-code, traceability, and structured outputs. What I need now are partners to commercialize, package, and distribute.

What I do
• Architect and implement multi-agent AI for real business workflows
• Design for auditability: OPA, immutable logs, policy drift detection, SLIs and SLOs
• Data and integration work across clouds and enterprise stacks
• Coach teams to move from proof to production with safety and rigor

Who I’m looking to partner with
• Fractional CROs, product marketers, and sales engineers who can turn working tech into revenue
• Boutique SIs and VARs seeking white-label agentic AI components
• Angels, venture scouts, and GTM advisors who know enterprise buyers

Proof points
• Built and maintained a large portfolio of working agentic systems
• Authored multiple books on applied AI and governance
• Delivered internal AI at enterprise scale with real constraints and SLAs

Publications

Artificial Intelligence in Robotics: Transforming the Future

The Agentic AI Week: Ship Weekly. Prove Daily. Scale Safely

Experiments with Capsule Networks for Lipreading

AI Strategy and Implementation: A Practical Guide for Leaders

The AI-Driven Organization: Strategies for Success

Let’s connect if you sell into mid-market or enterprise and want repeatable agentic AI offers that are implementation-ready.

See my Project Gallery on my site ReliableAINetwork.com.
You can explore my work two ways: the complete portfolio at https://aurelius-in.github.io/agentic-portfolio/
, or a filtered view by capability and industry through Project Gallery at https://reliableainetwork.com
.
Please find some availability in my calendar: https://calendly.com/oliveraellison/15min
to chat.

Experience

RAIN
Principal Engineer and AI Architect (Founder)
January 2025 - Present (1 year)

I rapidly build production-ready, enterprise-scale, AI-first systems that multiply workflow speed and unlock creativity. RAIN focuses on multi-agent platforms with retrieval over messy data, robust evaluations and guardrails, and clean UIs that teams actually use.

What we build
End-to-end multi-agent platforms with tool use, routing, and oversight
Retrieval-augmented generation across heterogeneous, proprietary data
Evals and reliability: offline and online tests, regression gates, SLAs for latency, cost, and accuracy
Governance: security, auditability, secrets hygiene, least privilege
Frontend: React dashboards that expose status, metrics, and human-in-the-loop controls

How I work
• Architecture sprint to align outcomes and constraints
• Ship a minimal, reliable slice fast, then iterate with measurable evals
• Tie deliverables to business metrics such as speed to insight, cost per query, adoption, and decision quality
• Build, operate, and transfer so internal teams can own the system confidently

Services

• AI strategy and platform architecture
• RAG and multi-agent system design and implementation
• Data ingestion and pipelines for structured and unstructured sources
• Evals, observability, and quality gates
• Cost and performance tuning
• Readiness reviews and team coaching

Core stack

Python, TypeScript, React, Postgres, pgvector or FAISS, Azure AI and Azure ML, AWS, Kubernetes, Docker, MLflow, GitHub Actions, Grafana, Blob and data lake storage, Pandas, Pydantic

Outcomes I target

• Faster cycle times from question to insight
• Lower run costs without sacrificing accuracy or UX
• Higher reliability through evals, tracing, and alerting
• Clear handoffs with documentation, dashboards, and training

Portfolio

Portfolio and work samples:
https://aurelius-in.github.io/agentic-portfolio/

PwC

AI/ML Architect & MLOps Engineer | Generative AI & LLM Solutions (via Randstad)

April 2025 - August 2025 (5 months)

Designed and delivered multiple AI agents for Deep Risk, PwC’s proprietary GenAI risk intelligence platform.

Developed FastAPI microservices and ETL pipelines connecting agents to proprietary and third-party data sources.

Integrated LangChain-based RAG pipelines for domain-specific retrieval and LLM-driven summarization.

Deployed scalable services via Docker, Kubernetes, and Azure DevOps, delivering new agents weekly to meet evolving stakeholder needs.

Boston University

ML Graduate Course Facilitator (Part-Time)
May 2020 - April 2025 (5 years)
United States

Boston University’s top-ranked online graduate programs are recognized globally for innovation in AI, data science, and computer science education. As a Machine Learning Course Facilitator, I helped deliver an engaging and rigorous learning experience for future ML professionals.

Responsibilities & Impact:
Co-designed and delivered a graduate-level Mobile Machine Learning course in collaboration with lead faculty
Led live virtual classrooms and Q&A sessions to deepen student understanding of ML techniques
Graded exams, coding assignments, and research essays, ensuring fair, timely, and insightful feedback
Provided one-on-one mentorship to help students master complex concepts in supervised/unsupervised learning, model evaluation, and deployment
Fostered a culture of academic excellence, combining rigor with accessibility for a global student body

Optum
AI Software Architect (UnitedHealth Group)
June 2021 - March 2025 (3 years 10 months)

Optum, the technology and innovation arm of Fortune 5 UnitedHealth Group, leverages AI and data science to improve outcomes across healthcare, pharmacy, and behavioral health. I led enterprise-scale AI architecture supporting 60M+ members, designing intelligent systems for real-time decisioning, personalization, and automation.

Highlights:
Led end-to-end AI system design across Optum, aligning with Product, Engineering, and Data Science to deliver scalable solutions across payer, provider, and call center ecosystems
Architected the Consumer Preferences Data Platform, driving $20M+ annualized value via personalized plan recommendations and omnichannel engagement
Built conversational AI used by 6K+ call center agents for intelligent routing and virtual assistant capabilities (Medicare + Commercial)

Developed LangChain + RAG pipelines to enhance LLM accuracy, schema alignment, and explainability—deployed via Azure DevOps, Kubernetes, and Terraform
Engineered real-time journey orchestration engines with FastAPI, vector search, and symptom navigation, enhancing caregiver access
Eliminated $2.5M/year in external ETL costs by owning and modernizing the full stack using FastAPI, Pydantic, Docker, and schema-first pipelines
Scaled CI/CD and MLOps using MLflow, GitHub Actions, and Azure ML; implemented real-time drift monitoring with Prometheus/Grafana
Mentored junior ML engineers and led Agile ceremonies, promoting excellence in model interpretability, GenAI workflows, and multi-agent LLM systems
Directed robust training and deployment pipelines on Azure ML + Databricks with integrated observability layers

Naval Surface Warfare Center (NSWC)

AI/ML R&D Engineer

January 2021 - June 2021 (6 months)
Dahlgren, Virginia, United States

NSWC is a premier U.S. Navy research division overseeing critical technologies that support surface warfare, including 70% of the nation’s nuclear arsenal. I served as an AI/ML R&D Engineer focused on robotic systems, collaborating with the Missile Defense Agency (MDA) and Department of Defense (DoD) to advance autonomous defense technologies.

Key Contributions:
Developed and deployed advanced AI/ML algorithms for autonomous robotics, enhancing performance in surveillance, navigation, and threat detection
Engineered machine vision pipelines using TensorFlow, PyTorch, and OpenCV to boost robotic perception, object recognition, and precision targeting
Designed adaptive algorithms for robotic weapons systems, significantly improving decision-making speed and reliability under real-time constraints
Contributed to missile trajectory tracking and machine lipreading systems as part of high-impact DoD research initiatives
Maintained an active Top Secret Security Clearance (granted Jan 2021), enabling hands-on involvement with classified national security projects
Delivered software innovations that strengthened the next generation of robotic defense infrastructure

Blue Eagle Robotics

7 years 9 months

AI/Robotics Engineer

September 2019 - January 2021 (1 year 5 months)

San Antonio, Texas Metropolitan Area

Blue Eagle Robotics builds AI-powered autonomous systems for defense, industrial, and research applications. I led the design and implementation of intelligent robotic platforms capable of operating in complex, unstructured environments—pushing the boundaries of adaptive machine behavior through cutting-edge ML and robotics integration.

Key Contributions:

Architected and deployed full-stack AI/ML solutions for autonomous robotics, enabling navigation, object recognition, and real-time decision-making

Built deep learning models (CNNs, RNNs) using TensorFlow and PyTorch to enable visual perception and adaptive behavior in dynamic environments

Developed reinforcement learning algorithms in Python for robotic path planning and obstacle avoidance, improving navigation efficiency by 35%

Integrated ROS + OpenCV with sensors (LiDAR, RGB-D, IMUs) for sensor fusion and SLAM, enhancing environmental awareness

Optimized edge AI deployment using NVIDIA Jetson TX2/Xavier, reducing inference latency by 40% and enabling real-time, on-device execution

Designed and led the prototype development that secured a $2M DARPA contract, showcasing real-time AI adaptation in unstructured scenarios

Delivered scalable AI architectures that form the foundation of the company’s next-gen robotic platforms

Software Engineer

July 2017 - September 2019 (2 years 3 months)

As one of the early engineers at Blue Eagle Robotics, I helped lay the software foundation for advanced AI-driven robotic systems. My work spanned full-stack development, embedded integration, and real-time control systems—driving core innovations that shaped our robotics product line.

Key Contributions:

Developed scalable software architectures for real-time robotic control, sensor integration, and data flow

Built robotic control modules using Python, C++, and ROS, enabling modular integration with AI perception and actuation subsystems

Engineered sensor data ingestion pipelines using OpenCV and ROS (LiDAR, IMU, RGB cameras), forming the basis of future perception and SLAM stacks

Prototyped computer vision algorithms with TensorFlow to support object detection and tracking in constrained environments
Integrated embedded systems (STM32, Arduino) for low-level robotic control and real-time response loops
Established CI/CD pipelines with Git, Jenkins, and Docker, cutting deployment turnaround time by 50%
Played a key role in the company's first successful robotic field trials, influencing strategic roadmap decisions
Collaborated across AI and hardware teams throughout the full software development lifecycle, from concept to deployment
Continuously optimized system performance, memory, and inference time to meet real-world operational constraints

System Integration Developer
May 2013 - July 2017 (4 years 3 months)
San Antonio, Texas Metropolitan Area

At the foundation of Blue Eagle Robotics' early success, I served as the critical link between hardware and software—building scalable, low-latency system integrations that enabled intelligent robotic systems to perform in complex real-world environments. I focused on middleware development, protocol-level communication, and system-level testing to ensure robust, synchronized interactions between components.

Key Contributions:
Developed and deployed middleware and integration frameworks to synchronize sensors, actuators, embedded controllers, and AI modules
Programmed low-latency communication interfaces (CAN, Ethernet, UART/SPI/I2C) using Python, C++, and Bash for real-time robotic coordination
Designed and implemented system-level integration testing frameworks with Jenkins and Docker, improving regression detection and reliability by 60%
Collaborated across hardware, firmware, and software teams to define requirements and optimize robotic architecture for performance and scalability
Built custom SDKs and APIs to abstract hardware functionality, boosting developer productivity and reducing integration time
Supported modular, scalable designs for rapid prototyping and multi-platform deployment, enabling faster product iteration cycles
Played a pivotal role in the transition from prototype to production-ready robotics systems, earning recognition for bridging the hardware-software divide

US Army

Combat Medic

January 2007 - January 2013 (6 years 1 month)

Fort Hood, Texas, United States

I proudly served six years in the U.S. Army as a combat medic, including two combat deployments to Iraq during Operation Iraqi Freedom and Operation New Dawn. My time in the military shaped my core values—resilience, mission-focus, and trust—which continue to guide my leadership and decision-making in the world of AI and technology.

Honors & Achievements:

Honorably discharged with Secret Security Clearance retained

Completed 2 years of combat deployment in high-risk zones across Iraq

Earned multiple commendations for service and conduct, including:

- # 2× Army Commendation Medals (ARCOM)
- # 2× Army Achievement Medals (AAM)
- # Meritorious Unit Commendation Medal
- # Iraq Campaign Medal with 3 Campaign Stars
- # Global War on Terrorism Service Medal
- # Army Good Conduct Medal
- # Noncommissioned Officer Professional Development Ribbon
- # 2× Overseas Service Ribbons
- # Army Service Ribbon

Education

Boston University

Master of Science - MS, Computer Software Engineering