

RAYMOND SCOTT STARSMAN

Kitty Hawk, NC | 757-232-7043 | scott@starsman.com | U.S. Citizen | DoD Secret Clearance / Previous TS/SCI

AI / MACHINE LEARNING ENGINEER

Technical leader and hands-on AI practitioner with a strong track record in machine learning, software development, systems engineering, data analytics, and Navy/DoD programs. Current work focuses on agentic AI, Large Language Models (LLMs), Retrieval Augmented Generation (RAG), hybrid knowledge graphs, and distributed intelligent-agent systems in Java and Python. Former NAVSEA C5I modernization policy lead with extensive experience translating complex operational and technical requirements into scalable, explainable solutions for Government users.

CORE QUALIFICATIONS

AI/ML: LLMs, RAG, prompt engineering, NLP, supervised/unsupervised learning, neural networks, YOLO, TensorFlow/Keras, scikit-learn, model evaluation | **Engineering:** Python, Java, SQL, knowledge graphs, graph retrieval/query, pgvector/vector search, Docker, distributed agents, data pipelines | **Cloud/Data:** Azure/AWS experience, relational databases, data warehousing, Power BI | **Defense:** NAVSEA, Navy C5I, DoD systems engineering, RMF/NIST, Government technical reviews, proposals/demonstrations

PROFESSIONAL EXPERIENCE

Cougaar Software, Inc. | Senior AI Researcher / Senior Software Architect | Jan 2023 – Present

- Provides advanced AI engineering and architectural leadership across Cougaar programs, specializing in agentic AI systems, hybrid knowledge graphs, mission-focused autonomy, and integration of LLMs with distributed intelligent agents.
- Led development of the U.S. Army-sponsored Battlefish capability for automated ingestion, decomposition, and operationalization of complex military communication specifications. Architected a Graph RAG approach combining structured and knowledge graphs, with Hierarchical Task Networks (HTNs) orchestrating multi-stage AI workflows.
- Developed LLM-related services for the AURORA AI/ActiveEdge platform, including Ollama-compatible model interfaces, RAG endpoints, and a Human Collaboration Service that orchestrates natural-language requests using LLMs and available tools.
- Developed graph-based AI capabilities that generate Graph Query Language (GQL) queries from natural-language questions and retrieve answers from large, complex knowledge graphs.
- Recent IDX/AURORA AI work includes Java-based graph reasoning and event-driven multi-agent simulation, graph-backed autonomous-agent state management, pgvector-enabled data environments, and rapid prototyping of AI-enabled decision-support and swarm behaviors in Python before transition to the distributed Java platform.

Defense Contract Audit Agency (DCAA) | Business Intelligence Program Manager | Aug 2020 – May 2025

- Provided technical leadership for innovative machine learning, business intelligence, and data solutions supporting Agency audit and business processes; worked directly with business leaders, engineers, and Microsoft.
- Developed and implemented the Agency Azure ML architecture supporting data ingestion, transformation, model development, testing, and solution hosting for both code-heavy and low-code ML solutions.
- Architected and developed an LLM proof-of-concept that automated review and question answering across contractual documents, demonstrating the ability to replace thousands of hours of tedious review with machine-assisted analysis.
- Developed a Python/YOLOv5 capability to autonomously detect, localize, and identify more than 40 military aircraft types in images and real-time video; presented the work at MORS and the NATO Operations Research Conference in 2023.
- Designed additional ML solutions using Python, TensorFlow, and Keras for nonlinear work-hour estimation and document/data extraction; architected data environments supporting enterprise Power BI and cloud transition.

Avineon, Inc. | Director, Advanced Technology Division | Jul 2006 – Jul 2020

- Provided managerial and technical leadership for software, systems engineering, AI/ML, data analytics, cybersecurity, cloud, and autonomous-systems efforts supporting DCAA, DARPA, NAVSEA, DHS, IRS, and other Federal customers.
- Founded and led a company machine learning/data-analysis working group. Developed and led solutions in image processing, NLP, supervised and unsupervised learning, deep learning, anomaly detection, and procurement automation.
- Developed a Python/TensorFlow/Keras neural-network autoencoder for cyber anomaly detection in industrial control systems and an NLP question-answering system using dense and LSTM layers.
- Led major Defense IT and systems-engineering programs, including a 35–40-person Marine Corps Systems Command OCIO support effort and a DCAA enterprise transformation team. Oversaw architecture, security/RMF, cloud migration, and enterprise infrastructure as corporate IT Director.

NAVY & EARLIER DEFENSE EXPERIENCE

Naval Sea Systems Command (NAVSEA) | Navy C5I Modernization Policy Lead | Washington, DC | Sep 2003 – Jun 2006

- Lead systems engineer for the process and policy governing modernization of Navy Command, Control, Communications, Computers, Combat Systems, and Intelligence (C5I) systems aboard ships, submarines, and complementary shore systems.
- Led senior military and Government engineers in developing and executing a comprehensive modernization process integrating technical testing, assessment, certification, information-security, and Fleet operational requirements.

Task Force Web, U.S. Navy | Technical Department Head / Technical Director | Norfolk, VA | Aug 2001 – Sep 2003

- Led military, Government, and contractor engineers implementing the Navy web-enablement vision; developed enterprise shipboard IT architecture, policy, and implementation guidance encompassing XML, database synchronization, cybersecurity, portals, and collaboration technologies.

Additional U.S. Navy Experience | Systems Engineering / Combat Systems / C4I Leadership | Jul 1986 – Aug 2001

Fleet Technical Support Center (Combat Systems Department Head); USS MOUNT WHITNEY (Electronic Material Officer); DISA (Chief Systems Engineer); Naval Electronics Systems Center (Systems Engineer); Naval Postgraduate School; USS CHANDLER (Combat Information Center Officer / Main Propulsion Assistant).

EDUCATION

Old Dominion University — Ph.D., Electrical Engineering, 2003. Dissertation: nonlinear optimization of fuzzy logic systems.

Naval Postgraduate School — M.S., Electrical Engineering, 1991. Thesis applied neural networks to control of an autonomous underwater vehicle; top electrical engineering graduate.

United States Naval Academy — B.S., Systems Engineering, 1986; top systems engineering graduate.

SELECTED TECHNICAL PUBLICATIONS & RECOGNITION

- Autonomous Aircraft Identification — Military Operations Research Symposium (MORS), 2023; also presented at the NATO Operations Research Conference, 2023.
- Implementation of a Neural Network Autoencoder to Detect Anomalous System Behavior — Advanced Machinery Technology Symposium, 2020.
- Simulation of Swarm Behavior with Fuzzy Networks — MODSIM World, 2013; Simulation of Cooperative Unmanned Systems Mission Execution Using Fuzzy Logic Networks — I/ITSEC, 2012.
- Honorable mention, DARPA critical minerals challenge using Python to interpret scanned maps and detect applicable features; Virginia Tech Certificate in Data Analytics, 2019; Certified member of the Defense Acquisition Workforce.

ADDITIONAL RELEVANT EXPERIENCE

Extensive experience communicating complex technical concepts to Navy, DoD, executive, and non-technical stakeholders; developing Government-ready technical documentation and architecture; supporting proposals, demonstrations, pilots, and technical exchange activities. Experienced with NIST/RMF security processes and handling of CUI in Defense environments.

CompTIA Security+ Certified – Verification ID: BC63HR0TD2111PG5