

Christopher Cook

AI & Engineering Executive | Director and Senior Director of Artificial Intelligence

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AI department founded and scaled 1 to 10 engineers · Cross-functional teams of 30+ · ~\$7M in DoD contracts procured and led · ~80% of R&D revenue from owned IP · Active Secret Clearance

EXECUTIVE SUMMARY

AI and engineering executive who founded an enterprise AI department, scaled it from one engineer to ten, and led cross-functional teams of 30+. Procured and led approximately \$7M in consecutive DoD contracts for an AI radiographic defect-recognition system approved for submarine-construction shipyards, built on proprietary IP that supplied roughly 80% of R&D revenue. Remains hands-on across LLM evaluation and red-teaming, agentic systems, and locally secured model deployment, with more than a decade of defense and federal delivery behind an Active Secret Clearance.

CORE COMPETENCIES

DoD & Federal Program Delivery · Founding & Scaling AI Teams · AI/ML Strategy & Roadmap · LLM Evaluation & Red-Teaming · Computer Vision & Signal Processing · Agentic Systems & LLM Applications · Secure & Locally Deployed AI · RAG & Retrieval Architecture · Production AI & MLOps · Cloud Architecture (AWS, GCP, Azure) · AI Governance & Risk-Based Deployment · Productizing R&D

PROFESSIONAL EXPERIENCE

AI Safety, Red-Teaming & Evaluation Consultant · Self-employed

June 2026 – Present

Remote · Independent consulting for AI developers and labs

- Conduct adversarial evaluations of frontier AI models for clients, systematically attempting to break safeguards and elicit unsafe, policy-violating, or unintended behavior; stress-test capabilities to find where performance breaks down and where models exceed their intended limits.
- Run capability uplift studies measuring whether model access meaningfully increases a user's ability to carry out high-risk tasks, across domains including biology, CBRN, cybersecurity, and medicine.
- Translate every shortfall into concrete recommendations for model behavior, safeguards, and evaluation coverage; deliver structured findings that feed directly into clients' model development and safety processes. Clients and technical details under NDA.

Senior Director of Artificial Intelligence · Frontier Design LLC

January 2026 – June 2026

Charleston, SC · AI consulting and proposal delivery for government, AI-lab, foundation, and commercial clients

- Architected and built an AI-assisted proposal and whitepaper engine on Claude: it parses a structured past-performance knowledge base, deep-reads source documents, researches the target entity, runs a realism check, drafts in the firm's voice, and self-scores against an 8-dimension rubric. Used it to produce federal and commercial proposals, concept notes, and two-pagers.
- Built the firm's past-performance knowledge base from scratch: project records encoded in XML with richness scoring and structured narratives, giving every proposal a queryable evidence layer instead of tribal memory.
- Designed an LLM-based rubric autograder with confidence scoring, a 0 to 10 strictness control, length normalization, and negative constraints; ran a validation study correlating scores across rubric categories and published the results as an IEEE-format analytic report.
- Led architecture and build of an AWS project database replacing spreadsheet workflows that had outgrown their tooling; centralized client, SME, project, and lead data into a single source of truth and stood up Salesforce with automated workflows.
- Standardized the firm's service offerings into productized packages with a repeatable technical structure for scoping and delivery; authored whitepapers and market research across the firm's AI service lines.

Director of Artificial Intelligence · ORBIS, Inc.

August 2020 – January 2026

Charleston, SC · Defense engineering and R&D · Active Secret Clearance · 5/5 performance rating five consecutive years

- Founded the AI department at one engineer and scaled it to 10 core engineers while leading cross-departmental teams of 30+ through the project managers I directed; owned AI/ML strategy from problem definition through production deployment, worked directly with the C-suite on funding and headcount, and presented programs to high-value customers and audiences of up to 200.
- Created proprietary, copyrighted AI/ML IP that supplied roughly 80% of ORBIS R&D revenue, turning applied AI into the company's primary research revenue engine.
- Procured and led 3 consecutive DoD contracts worth approximately \$7M for an AI radiographic defect-recognition system for weld and casting inspection; built and optimized the training cycle from scratch, earned DoD approval for shipyard integration on submarine builds, and drew inbound commercial deployment requests.
- Directed AI development across additional multimillion-dollar DoD contracts spanning image segmentation, predictive analytics, anomaly detection, and maritime sensor analysis (Python, JavaScript, C).
- Designed, trained, and deployed locally secured LLMs for workflow control in environments where cloud-hosted models were not an option; led ML R&D for non-destructive testing, ship-stability prediction, parametric-roll detection, and fuel-efficiency optimization.
- Led sensor-fusion and time-series forecasting for a ship-state prediction platform (Trim Management), achieved parametric-roll detection, initiated full-stack development of its digital-twin interface, and directed experiments that eliminated the RTK hardware requirement, saving roughly \$10K per unit sold.
- Established a university partnership with SIU and wrote the plan and SOW for a 3-year STEM engineering program built on an adapted Trim Management platform, generating \$80K in initial revenue.

Programmer Analyst · Lincoln Land Community College

November 2019 – August 2020

Springfield, IL

- Modernized legacy database systems, saving the institution more than \$100K in third-party consultant costs while improving performance and data integrity.
- Developed and deployed ML models on Salesforce data and orchestrated campus-wide system automation and data-analysis initiatives.

Data Analyst / Programmer · State of Illinois

May 2018 – November 2019

Springfield, IL · Illinois State Board of Education

- Built the Summative Designations school-ranking algorithm, business rules, and SQL procedures governing allocation of multimillion-dollar state education funding from student-assessment data; the algorithm remains in production use.
- Corrected 200K+ student records (exclusive of Chicago Public Schools), preventing roughly \$1M in irrevocable damages; automated critical database and reporting systems.

Teaching Assistant, Mathematics & Computer Science · University of Illinois Springfield

2015 – 2018

Springfield, IL · Financial Aid Assistant / Veteran Data Owner, 2013 – 2015

- Taught undergraduate and graduate courses including Machine Learning, Data Analytics, Advanced Calculus, and Theoretical Statistics; built educational and veteran-benefit analytics tools in C++, Batch, and Visual Basic.

EDUCATION & CREDENTIALS

- M.S., AI Software Engineering – University of Illinois Springfield
- M.A., History (Warfare and Behavioral Economics) – University of Illinois Springfield
- B.A., Theoretical and Abstract Mathematics – University of Illinois Springfield

Certifications: Certified SAFe 4 Product Owner/Product Manager; Cisco SECOPS and SECFND (Cybersecurity Operations and Fundamentals); Apprentice Technical Training (ATT); Tactical Computers and Network Operator (TCNO).

Technical: Languages: Python, JavaScript, C/C++, C#, SQL, Bash. AI/ML: PyTorch, TensorFlow, transformer and LLM design, LLM evaluation, Claude API, Ollama and llama.cpp local model serving, MCP-based agent tooling. Platforms: AWS, GCP, Azure, Docker, Salesforce, SQL Server, Git.

MILITARY EXPERIENCE

U.S. Navy – Sonar Technician (Submarines), Third Class Petty Officer

July 2007 – March 2010

- Operated and maintained sonar and acoustic-signal-processing systems aboard the nuclear submarine USS Rhode Island; managed operations across multiple crews under Squadron 16's Commodore and earned the Blue Jackets Award for performance. Trained in electronics, computer operations, networking, and signal analysis.