

Keith Steward, Ph.D.

Senior AI Engineering Leader | Generative AI Platform Builder

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PROFILE

Technical AI engineering leader who turns ambiguous platform mandates into reliable production systems and capable teams. Built a production Generative AI platform with agents, RAG, vector search, guardrails, evaluation, observability, and AWS deployment while recruiting and leading 11 engineers. Former AWS AI/ML specialist who advised 200+ enterprise customers and developed global technical communities. Brings hands-on Python and cloud architecture depth, responsible-AI governance experience, and a record of improving scale, cost, quality, and delivery speed from roadmap through operations.

SELECTED CAREER HIGHLIGHTS

- Created AssistX, a production Generative AI platform supporting 70+ automations across 20+ workflows; selected workflows run up to 50x faster than manual execution.
- Recruited, trained, and led an 11-engineer AI team while personally owning architecture, core-platform coding, infrastructure, deployment, and operations.
- Implemented LLM-as-judge evaluation, automated guardrails, model abstraction for cost control, vector retrieval, AI-agent orchestration, and platform observability.
- Advised 200+ AWS enterprise customers and trained 180+ solution architects on AI/ML, SageMaker, data, and scalable cloud architectures.
- Delivered cloud platforms with measurable outcomes: initial AssistX production release in eight months and 90% automation of a privacy-rights workflow.

PROFESSIONAL EXPERIENCE

Technical Co-Founder | Intelligent DataWorks, Inc. | Boston, MA | Aug 2023-Present

Own AI platform strategy, architecture, engineering, product delivery, hiring, deployment, and operations for an applied Generative AI SaaS company.

- Architected and built the AssistX production platform using Python, FastAPI, LLMs, RAG, AI agents, LangChain/LangGraph, PostgreSQL/PGVector, REST APIs, AWS, Docker, and infrastructure as code.
- Delivered the initial production platform in eight months and expanded it to 70+ AI capabilities spanning more than 20 workflows, with 3-nines uptime and 150+ pilot and early-adopter users at launch.
- Designed modular model integration to select and right-size foundation models by task, controlling token cost while supporting OpenAI, Amazon Bedrock, Claude, Cerebras, and open-weight models.
- Built evaluation and safety infrastructure using synthetic test data, LLM-as-judge quality measurement, automated guardrails, hallucination reduction, auditability, and operational observability.
- Recruited, trained, and led 11 AI and full-stack engineers through Agile sprints while remaining hands-on in core-platform coding, architecture reviews, AWS CDK deployments, security, and production operations.
- Initiated strategic acquisition discussions regarding IDW's AI platform as part of a planned transition to a senior AI/engineering leadership role.

Sr. Director of Engineering | SuccessKPI | Remote | Jun 2022-Aug 2023

Recruited to build and lead engineering for a new AWS-based workforce-management component within an AI-powered contact-center SaaS platform.

- Owned architecture and delivery for forecasting, staffing, scheduling, optimization, analytics, and platform integration capabilities; translated requirements into roadmaps, algorithms, work breakdown, and release plans.
- Recruited and mentored eight engineers and one manager, established Agile execution and engineering practices, and coordinated with product, quality, security, data, and platform teams.
- Delivered the production offering in 14 months for four large customers, integrating Python optimization and AWS services with Amazon Connect, Genesys, and Talkdesk environments.

Senior Director, Data Analytics & Operations | TriMark USA | Mansfield, MA | Aug 2021-May 2022

Modernized enterprise data and analytics across a \$1B+ organization with 11 divisions and heterogeneous ERP systems.

- Defined the AWS data-platform strategy and roadmap, secured executive support, and aligned marketing, supply chain, finance, and operations around 50+ analytics use cases and KPIs.
- Upskilled and expanded the team to seven AWS engineering members, adding delivery structure, architecture standards, mentoring, performance management, and vendor coordination.
- Delivered the first enterprise data lake in seven months, automating ingestion and normalization across 11 ERPs and reducing selected reporting cycles from two months to one day.

Engineering Lead, Cloud Data Privacy & AI Governance | MassMutual | Boston, MA | Nov 2020-Aug 2021

Established cloud-native engineering capabilities for enterprise privacy, AI governance, and Responsible AI initiatives.

- Led AWS architecture and implementation across five privacy and governance programs, partnering with product management, enterprise architecture, SRE, security, and governance teams.
- Advised the AI Governance & Ethics organization on model inventory, risk classification, transparency, bias, drift, testing, monitoring, observability, human oversight, and audit controls.
- Led a four-engineer team that delivered a cloud-native privacy-rights platform in eight months, automating approximately 90% of a formerly manual workflow.

Vice President, AI/ML | NorthBay Solutions | Andover, MA | Jan 2019–Nov 2020 | (Role ended in company-wide COVID layoff).

Recruited out of AWS by the CEO to establish a new AI/ML practice and create reusable cloud, data, and machine-learning offerings.

- Won approval for an AWS Data Lake and ML Accelerator, built the first working system hands-on, and directed an 18-person offshore engineering team through customer-demonstration readiness.
- Advised enterprise customers including Dun & Bradstreet, Harvard Business School, 1091 Media, and Invesco on AI, data strategy, architecture, and production cloud implementations.
- Combined technical strategy, reusable architectures, hands-on development, and team leadership to expand the firm's enterprise AI delivery capability.

Sr. Specialist Solutions Architect, AI/ML and Big Data/Analytics | Amazon Web Services | Boston, MA | May 2015–Dec 2018

Helped establish and scale AWS's AI/ML specialist capability while advising enterprise customers on production AI, data, and cloud adoption.

- Advised more than 200 enterprise customers across North America on AI/ML, SageMaker, data lakes, distributed analytics, and production architecture in financial services and other industries.
- Founded and led AWS technical field communities for Big Data/Analytics and AI/ML, growing them to 100 and 80+ specialists and producing 170+ enablement assets.
- Built and taught hands-on programs using SageMaker, TensorFlow, EMR, Spark, Athena, Glue, S3, Lambda, Step Functions, and related services; trained 180+ solution architects.
- Delivered 36 invited conference presentations, created an early AWS agent architecture presented at re:Invent, and received AWS ML Elite Gold and Platinum recognition.

EARLIER RELEVANT EXPERIENCE

Director of Software, Dimensional Photonics: led device and AWS cloud software for an FDA-cleared dental scanner through commercial launch. **Director of Cloud Development, CambridgeSoft:** led a 23-person team delivering a commercial scientific notebook product. Earlier roles combined AI, software, analytics, bioinformatics, and team leadership; named inventor on U.S. Patents 8,793,073 and 8,489,334 and a BioWizard intelligent-agent patent application.

TECHNOLOGIES

LLM Inference • Vector Search • PostgreSQL/PGVector • AI Guardrails • AI Evaluation • LLM-as-Judge • AI Governance • Observability • Amazon SageMaker • AWS Bedrock • TensorFlow • Python • Generative AI • AI Agents • Multi-Agent Systems • RAG • LangChain • LangGraph • Model Context Protocol • FastAPI • REST APIs • AWS CDK • Docker • Kubernetes • CI/CD • MLOps • Model Explainability • Bias Detection • Drift Detection • SQL • Spark • EMR • Athena • Glue • Lambda • EventBridge • S3 • Kafka • Distributed Systems • Microservices

EDUCATION

Ph.D., Molecular Biology / Microbiology & Immunology, University of Western Ontario, Canada
Canadian Medical Research Council Post-Doctoral Research Fellowship