

Keith Steward, Ph.D.

Director, AI Engineering | Life Sciences AI & ML Platforms

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PROFILE

AI and machine-learning engineering leader who builds reusable production platforms, technical teams, and governance systems that move advanced capabilities into dependable workflows. Combines hands-on Python, ML, generative and agentic AI, production architecture, cloud platforms, MLOps, evaluation, and Responsible AI with product, roadmap, team leadership, and executive communication. Built a production AI platform supporting 70+ automations across more than 20 workflows with 99.9% availability and led 11 engineers. Brings a Molecular Biology Ph.D. and direct bioinformatics, pharmaceutical-research, scientific-software, and regulated environment delivery experience.

SELECTED CAREER HIGHLIGHTS

- Built and led an AI company while owning a \$900,000 budget, staffing, technical and product roadmaps, architecture, coding, releases, security, governance, cloud operations, and measurable delivery outcomes.
- Personally built the AssistX core and first 80% of its initial application using Python, FastAPI, LLMs, agents, RAG, PostgreSQL/PGVector, APIs, Docker, AWS, and CDK, then led 11 engineers through production delivery.
- Implemented structural and LLM-as-judge evaluation, prompt regression, human review, synthetic-data testing, guardrails, prompt-injection screening, observability, model routing, Git-based version control, and production release practices.
- Advised more than 200 enterprise customers on AI/ML, data platforms, architecture, governance, and production cloud adoption; trained 180+ architects and created 170+ reusable technical assets and patterns.
- Combined a Molecular Biology Ph.D. with early scientific AI, genomic knowledge discovery, bioinformatics, pharmaceutical research software, commercial scientific products, and FDA-cleared healthcare technology.

PROFESSIONAL EXPERIENCE

Technical Co-Founder & CEO | Intelligent DataWorks | Boston, MA | Aug 2023 to Oct 2026

Built and led a production AI company while remaining hands-on in AI strategy, platform architecture, coding, evaluation, engineering standards, delivery, governance, and cloud operations.

- Recruited and led 11 engineers selected from more than 400 applicants; established onboarding, architecture training, Agile sprints, mentoring, code review, delivery priorities, and production standards.
- Built the AssistX core and first 80% of its initial application hands-on using Python, FastAPI, LLMs, agents, RAG, PostgreSQL/PGVector, APIs, Docker, AWS, and CDK.
- Delivered 70+ automations across more than 20 workflows, accelerating selected work by up to 50x while sustaining 99.9% availability.
- Established AI evaluation, LLM-as-judge, guardrails, observability, auditability, model routing, cost controls, security, CI/CD, Git-based version control, and production release practices.
- Own a \$900,000 budget, staffing, product and technical roadmaps, architecture, releases, cloud operations, and executive decisions across the venture.
- Completed planned transition from operating CEO responsibilities to pursue a long-term senior AI/engineering leadership role.

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

Built and led engineering for a new AI-powered workforce-management platform within a cloud-native enterprise SaaS company.

- Recruited and mentored eight engineers and one manager, with responsibility for performance reviews, compensation decisions, delivery standards, staffing, architecture, and roadmap execution.
- Directed a distributed Agile organization through production launch for four large customers, including the U.S. Departments of State and Education.
- Designed forecasting, machine-learning, optimization, and scheduling capabilities integrated with Amazon Connect, Genesys, and Talkdesk.

Sr. Director, Data Analytics & Operations | TriMark USA | Mansfield, MA | Aug 2021 to May 2022

Built the cloud data organization and operating model supporting enterprise analytics across a \$1B+ company and 11 divisions.

- Upskilled an initial four-person analytics team and expanded it into a seven-member AWS engineering organization with additional contractors.
- Aligned executives around more than 50 use cases and delivered the first enterprise data lake within ten months, reducing reporting from roughly two months to one day.

- Owned staffing, performance reviews, architecture, delivery planning, risk, change management, executive reporting, and cross-functional priorities.

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

Led architecture and engineering across privacy, governance, Responsible AI, data, and cloud initiatives in a regulated enterprise.

- Guided five initiatives spanning policy automation, model transparency, bias, drift, monitoring, human oversight, auditability, data governance, and governance APIs.
- Partnered with Enterprise Architecture and SRE on AWS, security, IAM, CI/CD, event-driven, container, and infrastructure-as-code standards.
- Delivered a cloud-native privacy platform within eight months that automated approximately 90% of a formerly manual workflow.

VP of AI/ML | NorthBay Solutions | Boston, MA | Jan 2019 to Nov 2020 | (Role ended in company-wide COVID layoff).

Recruited from AWS by the CEO to build an enterprise AI/ML consulting practice and reusable cloud delivery capabilities.

- Led an 18-person distributed engineering team delivering the Data Lake Accelerator while remaining hands-on in initial product architecture and implementation.
- Advised enterprise clients on AI, ML, data, platform strategy, architecture, and production delivery across concurrent consulting engagements.
- Combined executive advisory, staffing, reusable standards, cloud architectures, and production systems for enterprise customers.

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

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

- Advised more than 200 enterprises across North America on AI/ML, data platforms, architecture, governance, cloud adoption, and business outcomes.
- Founded and led technical communities totaling 180+ specialists, created 170+ enablement assets, and established standards and reusable client practices.
- Delivered 36 invited presentations, trained 180+ architects, and earned AWS ML Elite Gold and Platinum recognition.

EARLIER RELEVANT EXPERIENCE

- Original developer of Ingenuity Pathway Analysis at Ingenuity Systems, a commercial bioinformatics platform adopted by biotechnology, pharmaceutical, academic, and government research organizations.
- Developed BioWizard at Gene Logic, an AI system using 400 inferencing rules and the UMLS Medical Ontology to emulate scientist evaluation of genomic drug targets.
- Developed bioinformatics analysis software at Wyeth Research supporting pharmaceutical research and genomic knowledge discovery.

EDUCATION & RECOGNITION

Ph.D., Molecular Biology / Microbiology & Immunology, University of Western Ontario. AWS ML Elite Gold and Platinum; AWS re:Invent Rockstar; named inventor on multiple patents.

TECHNOLOGIES

AI/ML strategy • technical roadmaps • machine learning • generative AI • foundation models • agentic AI • AI agents • RAG • tool use • orchestration • planning • memory • guardrails • human oversight • Python • TensorFlow • Amazon SageMaker • AWS • Google Vertex AI • model serving • scalable APIs • data pipelines • FastAPI • REST APIs • MLOps • AI evaluation • LLM-as-judge • prompt regression • synthetic data • observability • monitoring • drift detection • CI/CD • Git • model governance • Responsible AI • model explainability • bias detection • auditability • data governance • privacy • security • PostgreSQL • PGVector • Docker