

Keith Steward, Ph.D.

Applied AI Solutions Architect | Life Sciences & Agentic Systems

Boston, MA | 508-318-8035 | keith.steward@gmail.com

[LinkedIn](#) | IntelligentDataWorks.ai | [IDW LinkedIn](#)

PROFILE

Applied AI architect who converts ambiguous business needs into compliant production solutions across life sciences, enterprise software, and regulated technology. Combines hands-on Python, SQL, LLMs, RAG, agentic workflows, LangGraph, APIs, vector search, evaluation, observability, and AWS with product ownership and stakeholder partnership. Built a platform supporting 70+ AI automations across 20+ workflows and brings earlier pharmaceutical, bioinformatics, and healthcare-technology experience. Delivers practical AI capabilities from use-case definition through deployment, adoption, measurement, and ongoing improvement.

SELECTED QUALIFICATIONS

- **Applied AI Delivery:** use-case definition, solution design, prototypes, production deployment, adoption, measurement, and enhancement
- **GenAI Engineering:** LLMs, agentic workflows, RAG, grounding, evaluation, Python, SQL, APIs, vector databases, and LangGraph
- **Lifecycle Controls:** versioning, CI/CD, monitoring, observability, quality, cost management, security, privacy, and responsible AI
- **Life Sciences Context:** pharmaceutical research software, bioinformatics, healthcare technology, scientific stakeholders, and regulated systems

PROFESSIONAL EXPERIENCE

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

Lead AI product strategy, architecture, engineering execution, and operations while remaining hands-on in platform development.

- Architected and helped build AssistX, a production AI platform combining Python, FastAPI, PostgreSQL/PGVector, LLMs, RAG, AI agents, APIs, LangChain, LangGraph, workflow orchestration, and AWS services.
- Delivered the first commercial release within eight months, supporting 70+ AI automations across more than 20 workflows and accelerating selected work by up to 50x.
- Recruited and technically led an 11-engineer Agile team while contributing directly to architecture, backend services, cloud infrastructure, orchestration, evaluation, security, and platform operations.
- Established reusable foundations for voice interaction, MCP, multi-agent workflows, controlled prompts, input validation, prompt-injection protection, vector search, human review, and observability.
- Validated the platform with hundreds of user signups at launch and estimated annual customer savings of approximately \$54,000 per organization.
- Initiated strategic acquisition discussions regarding IDW's AI platform as part of a planned transition to a senior AI/engineering leadership role.

Senior Director of Engineering | SuccessKPI | Remote | Jun 2022 to Aug 2023

Directed architecture and engineering for an AI-powered contact-center Workforce Management SaaS product.

- Recruited and led a seven-person distributed team delivering forecasting, optimization, scheduling, analytics, and automated communications on AWS.
- Translated product requirements into architecture, algorithms, APIs, testing, CI/CD, operations, and two-week Agile releases.
- Designed forecasting and linear-programming capabilities that converted contact-center demand and staffing constraints into operational schedules.

- Delivered the first working release within six months for two flagship enterprise customers and expanded the platform to additional large organizations.

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

Owned enterprise data modernization for a \$1B+ organization integrating 11 acquired businesses and heterogeneous ERP systems.

- Prioritized 50+ analytics use cases with Finance, Marketing, Supply Chain, and technology leaders and secured support for an AWS data strategy.
- Upskilled four analysts and grew the team to seven AWS engineers with hiring, mentoring, planning, budget, risk, and delivery accountability.
- Established nightly data ingestion, cataloging, consolidation, normalization, and global querying across 11 geographically distributed ERP environments.
- Delivered the first AWS data lake within seven months and reduced cross-ERP reporting from roughly two months to one day.

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

Led architecture and hands-on implementation across five enterprise Data Privacy and AI Governance initiatives.

- Converted policy and product requirements into secure cloud architecture, APIs, automated infrastructure, testing, CI/CD, and production releases.
- Delivered the first cloud-native privacy-rights platform within eight months, automating approximately 90% of a manual workflow.
- Partnered with Enterprise Architecture and SRE on IAM, serverless patterns, managed services, infrastructure automation, resilience, and cloud operating standards.
- Guided model-governance practices for evaluation, transparency, bias, drift, monitoring, auditability, lifecycle controls, security, and human oversight.

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

Recruited out of AWS by the NorthBay Solutions CEO to establish a new AI/ML practice and reusable production data-and-ML capability.

- Built an AWS Data Lake and ML accelerator hands-on with Python, Django, React, APIs, and AWS, then directed a 24-person remote team toward delivery.
- Delivered an AWS Neptune knowledge graph integrating complex hierarchical enterprise data and expanded reusable cloud and AI architectures for customers.
- Advised enterprise customers on AI strategy, data platforms, knowledge graphs, solution architecture, and production implementation.

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

Advised enterprises and AWS teams on production machine learning, distributed analytics, data platforms, and cloud adoption.

- Advised 200+ enterprises on AI/ML strategy, production architecture, SageMaker, data lakes, distributed systems, security, and scalable adoption.
- Created and led global Big Data and AI/ML communities, developing 180+ specialists through standards, mentoring, workshops, and reusable assets.
- Built a SageMaker and TensorFlow forecasting hackathon for Morgan Stanley data scientists and created 170+ technical enablement assets.
- Delivered 50+ technical presentations and workshops and earned AWS ML Elite Gold and Platinum recognition.

EARLIER RELEVANT EXPERIENCE

- At Ingenuity Systems, helped create Ingenuity Pathway Analysis, a widely adopted commercial bioinformatics product supporting pathway and molecular-network analysis.
- At Wyeth Research, developed pharmaceutical bioinformatics software supporting gene-pathway analysis and scientific discovery.
- At Dimensional Photonics, led an FDA-cleared digital-health product and built its fault-tolerant AWS platform and integrations.

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

applied AI • LLMs • agentic workflows • RAG • grounding • AI evaluation • Python • SQL • FastAPI • REST APIs • vector databases • PostgreSQL • PGVector • LangGraph • LangChain • OpenAI • Anthropic Claude • AWS Bedrock • SageMaker • Snowflake • Docker • Kubernetes • Git • CI/CD • MLflow • observability • monitoring • versioning • quality controls • cost management • security • privacy • responsible AI • HIPAA • data governance • workflow automation