

Keith Steward, Ph.D.

Principal Agentic AI Scientist | Computational Biology Systems

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

PROFILE

Agentic AI technical leader who combines current production LLM systems with a Ph.D. and earlier commercial bioinformatics, genomics, and pharmaceutical-software experience. Architects Python-based agents, RAG, tool orchestration, evaluation, observability, cost controls, and scientific knowledge workflows while leading technical programs and teams. Built the AssistX core and first 80% of its initial application, enabling 70+ automations across more than 20 workflows, and earlier helped create globally adopted pathway-analysis and genomic knowledge-discovery products.

SELECTED CAREER HIGHLIGHTS

- Architected and built production agentic systems spanning LLMs, tools, RAG, MCP, vectors, evaluation, orchestration, observability, and governed execution.
- Served as an original developer of Ingenuity Pathway Analysis, a globally adopted commercial bioinformatics product for biotechnology, pharmaceutical, and government research organizations.
- Developed BioWizard, an AI system using 400 inferencing rules and the UMLS Medical Ontology to evaluate genomic drug targets; a patent application was submitted.
- Developed bioinformatics analysis software at Wyeth Research supporting pharmaceutical research and genomic knowledge discovery.
- Built and led technical teams while remaining hands-on in Python, TensorFlow, SageMaker, data platforms, APIs, and production AI architecture.
- Established benchmarking, evaluation datasets, LLM-as-judge, feedback, guardrail, monitoring, reliability, and cost-governance practices.
- Connected strategy, architecture, delivery evidence, operational telemetry, risk controls, team capability, and business outcomes through transparent technical reviews and accountable decision gates.

PROFESSIONAL EXPERIENCE

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

Build and operate a production AI platform while owning strategy, architecture, delivery, governance, security, and cloud operations.

- Architected and built the AssistX core platform and first 80% of its initial application hands-on using Python, FastAPI, LLMs, RAG, agents, PostgreSQL/PGVector, APIs, Docker, AWS, and CDK.
- Recruited and technically led 11 engineers while owning a \$900,000 budget, product priorities, architecture, releases, security, and operations.
- Delivered 70+ automations across more than 20 workflows, accelerating selected work by up to 50x and sustaining 99.9% availability.
- Established evaluation, guardrails, human oversight, observability, model routing, cost controls, incident response, and release practices.
- 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

Built and led engineering for an AI-powered workforce-management component of a cloud-native contact-center SaaS platform.

- Recruited and led an 11-person organization, including a manager, spanning software, data, platform, security, BI, and quality engineering.
- Owned Agile execution, architecture, operational priorities, performance reviews, bonus allocation, team capacity, and a \$600,000 budget.
- Delivered forecasting, scheduling, optimization, analytics, APIs, and integrations for enterprise and government customers.

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

Established the enterprise data strategy, engineering team, architecture, roadmap, and operating capability across a fragmented multi-division environment.

- Aligned executives around more than 50 analytics use cases and secured funding for an AWS data-lake strategy and delivery roadmap.
- Upskilled an analytics team with no prior AWS experience and expanded it to seven cloud data engineers.

- Delivered the first enterprise data lake across 11 divisions in seven months, reducing 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.

- Led architecture and engineering across five enterprise Data Privacy and AI Governance initiatives spanning privacy rights, enterprise metadata, policy automation, and governance APIs.
- Advised the AI Governance and Ethics organization on model transparency, bias, drift, ownership, risk classification, monitoring, human oversight, and auditability.
- Established AWS security, IAM, API, event-driven, and CI/CD patterns while coordinating Product, Enterprise Architecture, SRE, governance, and delivery teams.

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

- Built an AWS data-and-ML accelerator and delivered enterprise AI/ML consulting solutions with reusable cloud architectures and production implementation guidance.
- Developed commercial AI, bioinformatics, and scientific software, including patented knowledge-discovery systems.

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

agentic AI • AI/ML systems • Python • LangGraph • LLMs • AI agents • tool orchestration • RAG • evaluation • benchmarking • feedback loops • observability • cost governance • TensorFlow • SageMaker • Vertex AI • Amazon Bedrock • OpenAI • computational biology • genomics • bioinformatics • pathway analysis • literature mining • UMLS Medical Ontology • knowledge graphs • vector databases • PostgreSQL • PGVector • FastAPI • Docker • Kubernetes • Responsible AI • technical program leadership