

Keith Steward, Ph.D.

Principal Solutions Architect | Knowledge Graph & Agentic AI

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

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

PROFILE

Hands-on solutions architect who connects enterprise data, knowledge systems, AI services, applications, and cloud platforms into secure production architectures. Combines knowledge graphs, ontologies, AWS Neptune, SPARQL, distributed systems, RAG, agentic workflows, APIs, governance, and senior stakeholder advisory. Built production knowledge, cloud, data, and AI platforms while advising 200+ AWS enterprises and creating reusable architecture assets. Brings the technical depth to translate complex business objectives into implementation plans, guide multi-stakeholder delivery, and turn disconnected information into reliable contextual systems.

SELECTED QUALIFICATIONS

- **Enterprise Solution Architecture:** discovery, requirements, blueprints, integrations, distributed systems, cloud-native platforms, security, scalability, and operations
- **Knowledge Graphs:** graph architecture, ontologies, AWS Neptune, SPARQL, UMLS, knowledge representation, querying, governance, and reusable services
- **Agentic & Retrieval Systems:** RAG, AI agents, LangChain, LangGraph, vector search, APIs, orchestration, evaluation, observability, and human oversight
- **Expert Services Delivery:** executive advisory, customer workshops, implementation guidance, stakeholder coordination, adoption, technical standards, and reusable assets

PROFESSIONAL EXPERIENCE

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

Architect and build production AI, retrieval, data, API, and cloud-platform capabilities for an applied AI SaaS product.

- Architected and helped build AssistX using 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.
- Implemented reusable MCP, multi-agent, vector-search, controlled-prompt, input-validation, prompt-injection-protection, human-review, and observability patterns.
- Contributed directly to backend services, system integration, cloud infrastructure, orchestration, evaluation, security, and production operations while guiding an 11-engineer team.
- 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 knowledge-based bioinformatics product using biological relationships and pathway knowledge.
- At Gene Logic, built the BioWizard intelligent-agent architecture for genomic knowledge discovery using the UMLS medical ontology.
- At NorthBay Solutions, delivered an AWS Neptune knowledge graph integrating complex hierarchical enterprise data and exposed it through reusable cloud architectures.

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

enterprise architecture • systems integration • cloud-native architecture • distributed systems • knowledge graphs • AWS Neptune • SPARQL • ontologies • UMLS • knowledge representation • graph querying • data governance • metadata • agentic AI • RAG • AI agents • LangChain • LangGraph • vector search • LLMs • workflow orchestration • AI evaluation • observability • human oversight • responsible AI • REST APIs • Python • FastAPI • PostgreSQL • PGVector • AWS • SageMaker • data lakes • Spark • EMR • Cassandra • microservices • Docker • Kubernetes • CI/CD • AWS CDK • IAM • security • auditability • Git