

Keith Steward, Ph.D.

Enterprise AI Architect | Cloud Transformation & Modernization Leader

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PROFILE

Hands-on enterprise AI architect who modernizes complex data, application, and cloud estates into scalable production platforms. Combines AWS, Bedrock, Kafka, distributed systems, APIs, data platforms, RAG, agentic workflows, vector search, knowledge graphs, governance, and operating-model change. Delivered an AWS data lake spanning 11 legacy ERPs and cut enterprise reporting from two months to one day; also architected a GenAI platform supporting 70+ automations. Brings practical roadmap judgment, stakeholder influence, and production engineering depth to move AI initiatives from pilots into resilient international operations.

- Delivered TriMark's first AWS data lake across 11 legacy ERPs and reduced reporting time by 60x.
- Architected production GenAI, RAG, agentic-workflow, vector-search, and API capabilities for AssistX.
- Advised 200+ AWS enterprises on cloud, AI/ML, data, and transformation architecture.
- Designed event-driven, Kafka, serverless, container, security, and CI/CD patterns at MassMutual.
- Led international and distributed delivery teams across the United States, United Kingdom, India, and Spain.

CORE EXPERTISE

- Enterprise AI architecture, target-state roadmaps, technology strategy, modernization, and transformation governance
- AWS, Bedrock, Kafka, cloud orchestration, distributed systems, APIs, legacy integration, and production operations
- Generative AI, RAG, agentic workflows, vector databases, knowledge graphs, memory, evaluation, and observability
- Data and application architecture, process reengineering, operating-model evolution, change management, and resilience
- Senior stakeholder advisory, international collaboration, architecture tradeoffs, standards, and multidisciplinary delivery

PROFESSIONAL EXPERIENCE

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

Lead AI product strategy, architecture, engineering execution, and operations for an applied Generative AI SaaS company.

- Architected and helped build AssistX, a production Generative AI assistant platform combining LLMs, AI agents, RAG, business data, vector search, and deterministic orchestration to support 70+ automations across more than 20 workflows.
- Delivered the initial production release within eight months and accelerated selected workflows by up to 50x while building reusable foundations for additional enterprise domains.
- Recruited and technically led an 11-engineer Agile organization while remaining hands-on in Python services, AWS infrastructure, APIs, AI orchestration, platform integration, evaluation, and operations.
- Established platform practices for security, maintainability, observability, human oversight, cost control, and multi-tenant SaaS delivery.
- Translated customer and product requirements into architecture, roadmaps, work breakdown, delivery priorities, and measurable workflow outcomes.

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

Led engineering and architecture for the Workforce Management component of an AI-powered contact-center SaaS platform.

- Built and led a distributed seven-person engineering team delivering forecasting, optimization, scheduling, analytics, and workflow capabilities on AWS.
- Translated detailed product requirements into cloud architecture, algorithms, APIs, work breakdown, automated delivery, and quality practices.
- Delivered the first production platform within six months and onboarded major enterprise customers, including the U.S. Department of State.

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.

- Defined an AWS data strategy and roadmap with Finance, Marketing, Supply Chain, and technology leaders across more than 50 prioritized analytics use cases.
- Upskilled a four-person analytics group and grew it into a seven-member AWS data-engineering and analytics team with delivery, mentoring, review, planning, budget, and risk accountability.
- Delivered the company's first AWS data lake within seven months, automating nightly ingest, cataloging, normalization, and cross-ERP querying; reduced reporting from roughly two months to one day.
- Managed modernization across legacy systems, architecture decisions, delivery risks, operating practices, executive communication, and organizational change.

Head of Cloud Software & Technical Leadership, Data, Privacy & AI Governance | MassMutual | Boston, MA | Nov 2020 to Aug 2021

Established cloud-native engineering capabilities across five Data Privacy and AI Governance initiatives.

- Led architecture and hands-on engineering for Privacy Rights Management, enterprise metadata, governance APIs, and policy-automation initiatives using AWS cloud-native patterns.
- Delivered MassMutual's first cloud-native privacy-rights platform within eight months, automating approximately 90% of a formerly manual CCPA, CPRA, and GDPR workflow.
- Advised AI Governance & Ethics on MLOps, model transparency, bias, drift, SageMaker, technical controls, auditability, and Responsible AI architecture.

VP of AI/ML | NorthBay Solutions | Boston, MA | Jan 2019 to Nov 2020

Established an enterprise AI/ML consulting practice and reusable AWS data-lake and machine-learning platform capability. Role ended in company-wide COVID layoff.

- Advised enterprise customers on AI, data, cloud, knowledge-graph, and production ML architecture, including Dun & Bradstreet, Harvard Business School, and Invesco.
- Proposed an AWS Data Lake and ML accelerator, built the initial system hands-on, and led a distributed 24-person team toward customer demonstrations and commercial delivery.
- Built Dun & Bradstreet's first AWS Neptune knowledge graph to integrate hierarchical Kmart and Sears business data.

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

Helped establish AWS's specialist AI/ML organization while advising enterprises on production AI, analytics, and cloud adoption.

- Advised 200+ enterprise customers across healthcare, financial services, manufacturing, technology, and other industries on AI/ML, data lakes, distributed analytics, architecture, and adoption strategy.
- Founded and led global technical field communities for Big Data and AI/ML, growing the AI/ML community to more than 80 specialists and developing standards, enablement, and technical leadership.
- Trained 180+ AWS solution architects and delivered 50+ presentations on SageMaker, TensorFlow, EMR, Spark, Athena, data platforms, and AI architecture.
- Earned AWS ML Elite Gold and Platinum recognition and contributed to AWS Big Data and AI certification exams.

EARLIER RELEVANT EXPERIENCE

- Director of Software, Dimensional Photonics (2012-2014): delivered FDA-cleared connected dental technology and architected a fault-tolerant AWS cloud, data, analytics, and integration platform within four months.
- Director of Cloud Development, CambridgeSoft (2010-2011): led a 25-person international team delivering cloud laboratory software for Sanofi and Merck and multi-tenant scientific SaaS capabilities.
- Life-science informatics roles at Wyeth Research, Spectral Genomics, Bacterial Barcodes, Ingenuity Systems, Monsanto, Gene Logic, and Sequana Therapeutics: built genomic knowledge-discovery, pathway-analysis, molecular-diagnostics, and regulated software capabilities.
- Original developer of Ingenuity Pathway Analysis, which became a globally adopted commercial platform for biotechnology, pharmaceutical, government, and academic research organizations.

PATENTS, RECOGNITION & SPEAKING

Named inventor on U.S. Patents 8,793,073 and 8,489,334 and the BioWizard genomic knowledge-discovery patent application. AWS ML Elite Gold and Platinum; AWS re:Invent Rockstar; 36+ invited industry and AWS presentations.

EDUCATION

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

TECHNOLOGIES

Enterprise AI architecture • digital transformation • technology strategy • target architecture • AWS • AWS Bedrock • AWS SageMaker • Kafka • EventBridge • Step Functions • API Gateway • cloud orchestration • distributed systems • microservices • REST APIs • legacy integration • data platforms • data lakes • data pipelines • Generative AI • LLMs • RAG • Agentic AI • AI agents • LangChain • LangGraph • vector databases • PGVector • knowledge graphs • AWS Neptune • MLOps • LLMOps • evaluation • observability • AI governance • security • compliance • operational resilience • Docker • Kubernetes • Python • SQL • CI/CD