

Keith Steward, Ph.D.

Director of AI | Sr. AI Architect | AI Governance & Agent Engineering

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

<https://www.linkedin.com/in/keithsteward/> | <https://IntelligentDataWorks.ai> | <https://bit.ly/3Th0CFX>

PROFILE

Senior hands-on AI architect and agent-systems builder with 25+ years creating production AI/ML, analytics, SaaS, cloud, and enterprise software. Combines deep LLM, RAG, agentic workflow, context management, evaluation, observability, governance, and AWS engineering expertise with practical standards-setting experience. Created a production GenAI assistant platform supporting 70+ automations across 20+ workflows and previously advised 200+ AWS enterprise customers. Solves difficult enterprise AI-agent architecture, review, deployment, security, failure-handling, knowledge, and adoption problems.

Career Note: Following four years at AWS, I accepted three successive executive leadership opportunities to build new AI, Data Analytics, and governance capabilities in organizations undergoing significant transformation. In 2023 I founded *Intelligent DataWorks* inc. to commercialize an enterprise GenAI + Business Data platform, and I am now seeking a new AI opportunity following a planned strategic transition of that business.

CORE EXPERTISE

Hands-on AI architect combining production agent engineering, context and retrieval systems, technical governance, platform evaluation, responsible AI, and cross-functional advisory.

AI Agent Engineering: LLM APIs, agentic workflows, tool use, function calling, RAG, context management, orchestration, evaluation, failure handling, human-in-the-loop controls.

Architecture and Operations: production deployment, observability, access controls, monitoring, incident response, reusable design patterns, connectors, knowledge repositories.

Governance and Risk: technical review standards, responsible AI, model governance, AI risk, data privacy, auditability, security-aware architecture, NIST-aligned practices.

Cloud and Software Engineering: AWS, Python, PostgreSQL/PGVector, FastAPI, LangChain, LangGraph, APIs, Docker, Kubernetes, CI/CD, distributed systems.

SELECTED CAREER HIGHLIGHTS

- Founded and directed an AI startup and 11-engineer AI organization.
- Created *AssistX*, a production GenAI assistant platform for 70+ automations across 20+ HR workflows.
- Supported AI and analytics adoption across 200+ AWS enterprise customers.
- Created AWS AI/ML technical communities and trained 180+ global solution architects.
- Delivered TriMark's first AWS data lake, reducing cross-ERP reporting from roughly 2 months to 1 day.
- Technically directed Data Privacy and AI Governance cloud engineering at MassMutual.
- Implemented commercial software products including the globally adopted Ingenuity Pathway Analysis platform.
- Earned AWS ML Elite Gold and Platinum recognition; named inventor on multiple patents.

Technical Co-Founder & CEO | *Intelligent DataWorks inc* | Aug 2023 to Present

Founded an applied AI SaaS company to commercialize an enterprise GenAI + business data platform. Owns AI strategy, product vision, platform architecture, engineering execution, workflow design, security posture, customer validation, and strategic transition planning.

- Architected *AssistX*, a production-grade generative AI assistant platform using LLMs, AI agents, RAG, PostgreSQL/PGVector, LangChain, LangGraph, APIs, workflow orchestration, and AWS cloud services.
- Created reusable AI platform foundations for agentic workflows, RAG grounding, vector search, evaluation loops, observability, human-in-the-loop quality, secure data handling, and production adoption.
- Produced 70+ AI automations across 20+ HR and business workflows, improving selected workflows by up to 50x versus manual execution.
- Directed an 11-engineer Agile AI development team while staying hands-on in product architecture, roadmap execution, cloud engineering, backend systems, AI orchestration, and platform operations.
- Delivered the initial production release within 8 months and converted emerging LLM capability into a durable SaaS platform.
- Established AI product strategy, roadmap sequencing, stakeholder narratives, adoption plans, commercialization assets, and business-value messaging for enterprise AI workflows.
- Applied Python, PostgreSQL/PGVector, FastAPI, AWS, LLM APIs, RAG, agentic workflows, and evaluation practices to production AI workflows.
- Initiated strategic acquisition discussions with HR technology companies regarding IDW's AI platform, with plans to pursue a future senior AI leadership opportunity with another company.

Sr. Engineering Director, Workforce Management Service | *SuccessKPI* | Jun 2022 to Aug 2023

Directed engineering, architecture, and delivery for the Workforce Management component of an AI-powered contact-center analytics SaaS platform. Converted product requirements into cloud architecture, forecasting algorithms, optimization workflows, integrations, and release plans.

- Recruited and directed a 7-member distributed engineering team building AWS-based forecasting, scheduling, visualization, and automated communication capabilities.
- Designed AI-driven forecasting, optimization, workflow automation, API integration, analytics, and product delivery patterns for enterprise SaaS and customer-facing operations.
- Delivered the first working WFM release within 6 months for two flagship enterprise customers and advocated early generative AI adoption across the platform.

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

Recruited to build the company's first enterprise data lake initiative across 11 ERP systems and establish enterprise analytics capability. Partnered with marketing, supply chain, finance, and executive stakeholders to prioritize analytics use cases and KPI delivery.

- Secured support for an AWS data lake strategy enabling data engineering, analytics, and future machine learning capabilities across a \$1B+ enterprise.
- Delivered TriMark's first AWS data lake within 7 months, automating nightly ingest, cataloging, consolidation, and normalization across 11 ERPs.
- Improved cross-ERP reporting cycles from roughly 2 months of manual work to 1 day, a 60x improvement in insight delivery.

Technical Lead for Cloud, Data Privacy and AI Governance | *MassMutual* | Nov 2020 to Aug 2021

Established AWS architecture and hands-on implementation for Data and AI Governance capabilities, including privacy rights management, enterprise data catalog, adaptive policy framework, governance APIs, and AI governance initiatives.

- (System work was completed in 14 months).
- Coordinated product managers, enterprise architecture, governance, site reliability, and developers to convert requirements into secure cloud-native architecture, sprint plans, CI/CD, and production delivery.
- Provided MLOps guidance for model transparency, bias, drift detection, auditability, monitoring, and lifecycle management using Amazon SageMaker.
- Delivered a first cloud-native privacy rights platform in 8 months, automating roughly 90% of a formerly manual workflow.

VP of Machine Learning & AI | NorthBay Solutions | Jan 2019 to Nov 2020

Recruited out of AWS by the NorthBay Solutions CEO to head up a new AI / ML practice for enterprise customers and AWS-based product acceleration.

- (COVID triggered company-wide layoffs including my role)
- Generated CEO approval for an AWS Data Lake + ML Accelerator SaaS initiative, built the initial working system hands-on, and directed remote engineering toward customer demonstrations.
- Delivered AI/ML and analytics solutions for Dun & Bradstreet, Harvard Business School, Invesco, and other enterprise customers.

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

Served as an AWS senior specialist across AI/ML, Big Data, analytics, data lakes, machine learning, and enterprise cloud adoption. Advised senior customer stakeholders and enabled AWS field teams with technical strategy, architecture, demos, and training.

- Created and grew AWS internal AI/ML and analytics technical communities, enabling 180+ global solution architects and producing 170+ technical assets.
- Advised 200+ enterprise customers on AI strategy, ML, data lake architecture, SaaS adoption, governance, security-aware architecture, SageMaker, TensorFlow, Glue, Athena, S3, Lambda, and production patterns.
- Presented 50+ formal AI/ML and analytics sessions and earned AWS ML Elite Gold and Platinum recognition.

PATENTS / PUBLICATIONS / SPEAKING

- United States Patent No. US 8,793,073.
- United States Patent No. US 8,489,334.
- BioWizard Intelligent Agent Architecture patent application (1998) for genomic knowledge discovery.
- Delivered 36 formal presentations on Machine Learning, Deep Learning, and Artificial Intelligence at large AWS and non-AWS/industry events.
- AWS ML Elite Gold and AWS ML Elite Platinum awards.
- AWS re:Invent Rockstar and AWS Certification SME recognition.

EDUCATION

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

TECHNOLOGIES

AI agents • RAG • LangChain • prompt engineering • evaluation • observability
responsible AI • AI governance • Agentic AI • LLMs • multi-agent systems • LangGraph
OpenAI APIs • Anthropic Claude • AWS Bedrock • AI orchestration
human-in-the-loop systems • Model Context Protocol (MCP) • evals • MLOps • MLflow
model governance • model explainability • bias detection • drift detection
auditability • data privacy • risk management • AWS • SageMaker • TensorFlow • SparkML
EMR • Spark • PySpark • Glue • Athena • S3 • Lambda • Step Functions • EventBridge
API Gateway • Aurora Serverless • Redshift • Kafka • AWS Control Tower
CloudFormation • AWS CDK • Kubernetes • Docker • Python • FastAPI • Flask • Pandas
NumPy • SQL • PostgreSQL • PGVector • REST APIs • Git • CI/CD • distributed systems
microservices • event-driven architecture • SaaS architecture • data lakes
data pipelines • data engineering • analytics • predictive analytics
workflow automation • workflow orchestration • optimization • linear programming
knowledge graphs • AWS Neptune • SPARQL • Linux • Bash • Agile delivery • Scrumban
HIPAA • GDPR • CCPA • CPRA