

Keith Steward, Ph.D.

Principal Enterprise AI Architect | Applied AI Governance

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PROFILE

Hands-on enterprise AI architect who converts emerging models and frameworks into governed, reusable production patterns. Combines platform architecture across data, integrations, AWS, security, privacy, and distributed systems with current implementation of LLMs, RAG, agents, evaluation, and orchestration. Built a production AI platform supporting 70+ automations across more than 20 workflows and helped establish global AWS specialist communities totaling 180+ people. Brings the judgment to reduce architectural rework while accelerating secure, cost-aware AI adoption across technical and business teams.

CORE TECHNOLOGIES

Enterprise AI Architecture • LLMs • AI Agents • LangChain • LangGraph • RAG • AWS • Enterprise Integration • Governance • Security • Observability • AI Evaluation • Workflow Orchestration

SELECTED CAREER HIGHLIGHTS

- Architected and built the reusable AssistX production platform using LLMs, RAG, agents, LangChain/LangGraph, MCP, PostgreSQL/PGVector, APIs, and AWS.
- Established evaluation, guardrails, model selection, token-cost controls, security, observability, and operational practices supporting 99.9% availability.
- Created reusable AWS data-and-ML reference architectures and advised 200+ enterprises on AI, data, cloud, security, and production adoption.
- Developed global AWS AI/ML and Big Data specialist communities totaling 180+ people, creating standards, workshops, demos, and 170+ technical assets.

PROFESSIONAL EXPERIENCE

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

Architect and build the product, platform, and cloud stack while owning delivery and production operations.

- 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.
- Delivered 70+ automations across more than 20 workflows, accelerating selected work by up to 50x and supporting 99.9% uptime.
- Established evaluation, guardrails, model routing, cost controls, security, observability, release management, and operational practices.
- Mentored 11 engineers in architecture and AI-assisted development; more than half of the product was built with tools including Codex.
- 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

- Built enterprise cloud and software platforms spanning AI, data, privacy, regulated applications, and fault-tolerant operations.
- At Dimensional Photonics, directed an AWS/Cassandra platform and integrations for an FDA-cleared connected product.

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 • platform architecture • solution architecture • reference architectures • architecture standards • Generative AI • LLMs • AI agents • multi-agent systems • LangChain • LangGraph • MCP • RAG • prompt engineering • AI evaluation • AI guardrails • workflow orchestration • REST APIs • enterprise integration • event-driven architecture • AWS • Amazon Bedrock • SageMaker • data platforms • distributed systems • microservices • PostgreSQL • PGVector • AWS Neptune • knowledge graphs • security • data privacy • Responsible AI • governance • observability • reliability • cost controls • CI/CD • Docker • Kubernetes • AWS CDK • Python • FastAPI