

Keith Steward, Ph.D.

Principal Applied AI Engineer | Production Platform Architect

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PROFILE

Hands-on principal engineer and architect who turns AI experimentation into reliable, customer-facing production platforms. Combines full-stack and backend architecture, distributed services, APIs, AWS, observability, security, and operational rigor with deep applied AI delivery. Built the AssistX core platform and first 80% of its initial application, enabling 70+ automations across more than 20 workflows with 99.9% uptime. Brings the technical judgment to align complex systems, unblock cross-team initiatives, mentor senior engineers, and scale durable product experiences.

CORE TECHNOLOGIES

Applied AI • Full-Stack Architecture • Backend Services • Distributed Systems • Python • FastAPI • REST APIs • AWS • LLMs • RAG • AI Agents • Observability • Reliability • CI/CD • Security

SELECTED CAREER HIGHLIGHTS

- Architected and built the reusable AssistX core platform and the first 80% of its initial application, taking an AI concept through production operation.
- Delivered 70+ AI automations across more than 20 workflows, accelerating selected work by up to 50x while sustaining 99.9% availability.
- Advised 200+ AWS enterprise customers on AI, data, and cloud architecture and developed specialist communities totaling 180+ people.
- Built and operated full-stack, backend, API, data, and cloud platforms across SaaS, healthcare technology, financial services, and enterprise software.

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

- Directed an AWS/Cassandra platform for an FDA-cleared connected healthcare product, integrating device data with resilient cloud services.
- Built enterprise scientific and cloud applications at CambridgeSoft, combining full-stack software architecture with product delivery.

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

full-stack architecture • backend services • distributed systems • REST APIs • FastAPI • Python • AWS • cloud-native architecture • microservices • event-driven architecture • LLM applications • AI agents • RAG • LangChain • LangGraph • MCP • PostgreSQL • PGVector • AI evaluation • observability • debugging • monitoring • reliability • resilience • security • CI/CD • automated testing • Docker • Kubernetes • AWS CDK • SageMaker • Amazon Bedrock • data pipelines • SQL • React • HTML • CSS • Git • Linux