

Keith Steward, Ph.D.

Enterprise AI Software Architect | Scalable Platform Systems

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PROFILE

Hands-on software architect who defines and builds secure, scalable, cost-conscious enterprise AI platforms. Combines 29 years of software architecture with production LLM, agent, RAG, API, distributed-system, cloud, data, evaluation, observability, and governance experience. Built the AssistX core and first 80% of its initial application using Python, FastAPI, AWS, containers, and infrastructure as code, then mentored 11 engineers. The platform supports 70+ automations across more than 20 workflows with 99.9% availability. Delivers disciplined execution, transparent metrics, and pragmatic technical judgment across complex stakeholder environments.

CORE TECHNOLOGIES

AI infrastructure • AWS • distributed systems • Python • FastAPI • model gateways • cloud networking • infrastructure as code • AWS CDK • Docker • Kubernetes • CI/CD • AI governance • IAM • observability

SELECTED CAREER HIGHLIGHTS

- Architected and built a reusable production AI platform spanning model access, agents, RAG, MCP, APIs, vectors, evaluation, and workflow orchestration.
- Designed secure, scalable, cost-aware cloud patterns using AWS, microservices, containers, infrastructure as code, CI/CD, IAM, networking, and observability.
- Established architecture and governance controls for evaluation, guardrails, human review, privacy, auditability, model routing, cost, releases, and incidents.
- Built the AssistX core and first 80% of its initial application hands-on, then mentored 11 engineers through architecture, code reviews, testing, and delivery.
- Advised 200+ AWS enterprises on AI, data, distributed systems, security, modernization, and build-versus-buy architecture decisions.
- Built enterprise scientific, healthcare, financial-services, cloud, data, and SaaS systems across regulated and high-availability environments.

PROFESSIONAL EXPERIENCE

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

Build and operate a production AI platform while owning strategy, architecture, delivery, governance, security, and cloud operations.

- Architected and 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.
- Recruited and technically led 11 engineers while owning a \$900,000 budget, product priorities, architecture, releases, security, and operations.
- Delivered 70+ automations across more than 20 workflows, accelerating selected work by up to 50x and sustaining 99.9% availability.
- Established evaluation, guardrails, human oversight, observability, model routing, cost controls, incident response, and release practices.
- 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

Built and led engineering for an AI-powered workforce-management component of a cloud-native contact-center SaaS platform.

- Recruited and led an 11-person organization, including a manager, spanning software, data, platform, security, BI, and quality engineering.
- Owned Agile execution, architecture, operational priorities, performance reviews, bonus allocation, team capacity, and a \$600,000 budget.
- Delivered forecasting, scheduling, optimization, analytics, APIs, and integrations for enterprise and government customers.

Senior Director, Data Analytics & Operations | TriMark USA | Mansfield, MA | Aug 2021 to May 2022

Established the enterprise data strategy, engineering team, architecture, roadmap, and operating capability across a fragmented multi-division environment.

- Aligned executives around more than 50 analytics use cases and secured funding for an AWS data-lake strategy and delivery roadmap.
- Upskilled an analytics team with no prior AWS experience and expanded it to seven cloud data engineers.
- Delivered the first enterprise data lake across 11 divisions in seven months, reducing 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.

- Led architecture and engineering across five enterprise Data Privacy and AI Governance initiatives spanning privacy rights, enterprise metadata, policy automation, and governance APIs.
- Advised the AI Governance and Ethics organization on model transparency, bias, drift, ownership, risk classification, monitoring, human oversight, and auditability.
- Established AWS security, IAM, API, event-driven, and CI/CD patterns while coordinating Product, Enterprise Architecture, SRE, governance, and delivery teams.

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 an AWS data-and-ML accelerator and delivered hands-on enterprise AI/ML consulting solutions.
- Developed commercial AI, bioinformatics, and scientific software, including patented knowledge-discovery systems.

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 AI architecture • software architecture • AI platform architecture • distributed systems • scalable systems • security architecture • cost optimization • Python • FastAPI • REST APIs • microservices • event-driven architecture • AWS • Amazon Bedrock • SageMaker • Docker • Kubernetes • AWS CDK • infrastructure as code • CI/CD • IAM • networking • observability • reliability • incident response • LLM applications • AI agents • RAG • MCP • PostgreSQL • PGVector • vector databases • AI evaluation • guardrails • human-in-the-loop • model routing • Responsible AI • technical strategy • code review • mentoring