

Keith Steward, Ph.D.

AI/ML Engineering Director | Agentic Workflow Orchestration

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PROFILE

Hands-on engineering leader who builds resilient orchestration layers connecting agentic AI, deterministic rules, workflow engines, APIs, events, and human review in regulated enterprises. Combines durable execution, evaluation, confidence controls, observability, reusable interfaces, Responsible AI, and team development. Built the AssistX core and first 80% of its initial application while leading 11 engineers, enabling 70+ automations across more than 20 workflows with 99.9% availability. Translates complex, multi-system operating processes into recoverable execution patterns, measurable controls, and reusable platform standards that support reliable adoption across technical and business teams.

SELECTED CAREER HIGHLIGHTS

- Architected and built production orchestration spanning LLM agents, deterministic workflows, RAG, tools, APIs, state, retries, and human escalation.
- Built and led an 11-person AI engineering organization while remaining hands-on in architecture, coding, prototyping, reviews, and operations.
- Established evaluation, validation, confidence thresholds, guardrails, exception handling, human review, telemetry, and outcome reporting.
- Led five enterprise privacy and AI-governance initiatives in regulated financial services and delivered HIPAA/FDA-regulated healthcare technology.
- Designed shared APIs, event-driven patterns, data pipelines, security controls, and reusable platform capabilities across complex enterprise environments.

PROFESSIONAL EXPERIENCE

Technical Co-Founder & CEO | 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 led enterprise AI/ML solution delivery with distributed teams.
- Led cloud and software delivery for an FDA-cleared connected healthcare product and its fault-tolerant platform.

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

agentic AI • workflow orchestration • durable workflows • deterministic automation • RAG • MCP • LangChain • LangGraph • Python • FastAPI • REST APIs • event-driven architecture • microservices • state management • retry patterns • human-in-the-loop • AI evaluation • confidence scoring • guardrails • exception handling • observability • telemetry • KPI reporting • AWS • Amazon Bedrock • SageMaker • PostgreSQL • PGVector • Docker • Kubernetes • AWS CDK • CI/CD • security • privacy • Responsible AI • HIPAA • AI governance • team leadership • Agile delivery