DAVID R. RINTOUL

Forward-Deployed AI Architect • B.A.Sc. Computer Engineering
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PROFESSIONAL SUMMARY

Forward-Deployed AI Architect with 20+ years of enterprise experience building scalable data infrastructure, business intelligence tools, and strategic product roadmaps for Fortune 100 leaders including Microsoft, Disney, and Charles Schwab. Combines a proven corporate background in machine learning and elite technical credentials (CISSP, CDMP, CAIP, LCAE) with a safety-critical operational discipline derived from a decade of directing zero-incident commercial diving. Expert in architecting self-hosted agentic AI platform environments, column-level data lineage, and zero-trust data deployments.

CORE TECHNICAL EXPERTISE

- **Agentic AI & Orchestration**: Python, LangChain, LangGraph, MCP, RAG with source validation, local LLM inference, Firecrawl, Playwright, n8n
- **Modern Data Stack & Analytics**: Qdrant vector search, Neo4j knowledge graphs, Relational & NoSQL databases (SQL, MongoDB), SQLAlchemy (Python/SQL integration), column-level data lineage & impact analysis, Tableau, Alteryx, Dataiku
- **Cloud Architecture, DevOps & Security**: AWS deployment, multi-cloud frameworks (Azure/GCP adaptable), Docker, Linux, GitHub Actions CI/CD, Cloudflare Tunnels, Langfuse observability, zero-trust infrastructure
- **Governance & Enterprise Compliance**: CISSP, CDMP, CAIP-informed AI safety & GDPR/EU AI Act data privacy architecture, with comprehensive audit logging for highly regulated environments (Healthcare/Finance)

AI, DATA & GOVERNANCE

Founder & Principal AI Architect | Voyages By Dave | *2024–Present*

- Engineered a containerized, self-hosted agentic platform featuring deterministic multi-source data synthesis, automated research pipelines, and 20+ integrated MCP tools.
- Architected local LLM inference, vector search, and knowledge graphs to enforce strict semantic guardrails: responses grounded in retrieved sources, with nothing sent to outside AI services.
- Reduced manual research workflows from hours to under 10 minutes, delivering a >90% efficiency improvement via reusable, deterministic agentic pipelines.

Enterprise Data Governance & Security Consultant | *2021–2023*

- **Charles Schwab (2023 | Cybersecurity)**: Engineered a Python XML metadata auditing tool to trace Tableau calculated fields across hundreds of unversioned workbooks directly to schema columns, ensuring flawless database migrations without dashboard downtime.
- **Evernorth Health Services (2022 | Data Governance)**: Overhauled multi-gigabyte ingestion pipelines into modular, fault-tolerant Python workflows with transactional rollbacks, elevating reliability from ~65% to 99.9% and eliminating failed overnight job restarts.

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- **The Walt Disney Company (2021 | Cybersecurity):** Replaced fragile, laptop-dependent engineer scripts with an AWS-hosted data pipeline to ingest and correlate vulnerability scans with external threat feeds; navigated strict database access controls to eliminate critical key-person dependencies and single-point-of-failure risks, ensuring 24/7 process availability and saving 10+ hours of manual analysis per month.

Business Intelligence Analyst / Developer | WellCare | *2019–2021*

- Engineered an ML classification model with 94% accuracy to predict member non-renewal, driving a 30% increase in retention via targeted, automated outreach campaigns.
- Architected automated geospatial workflows using government APIs during COVID-19 to map member locations to accredited medical facilities, enabling rapid, targeted outreach.
- Reclaimed 24% of underutilized software licenses by tying platform access to user proficiency and business need, designing and deploying supporting training programs enterprise-wide.

SAFETY-CRITICAL SYSTEMS & REGULATED OPERATIONS

Operations & Safety Director | Diving & Hyperbaric Medicine | *2009–2018*

- Directed safety compliance and risk management across 3 major public aquariums, maintaining a zero-incident safety record across thousands of complex research and occupational dives.
- Provided operational oversight for 2 clinical hyperbaric wound-care programs, applying strict systems-engineering principles to high-consequence medical environments.
- Overhauled monolithic training programs into modular, competency-based frameworks, slashing time-to-productivity from 8 months to 3 months while maintaining safety best practices.

PRODUCT, PROGRAM & ALLIANCE LEADERSHIP

Microsoft | Senior Program Manager (*2006–2008*) | Senior Product Manager (*1999–2003*)

- Restructured a 200+ partner program around commitment and readiness tiers, concentrating direct support on a handful of depth partners while maintaining coverage for the ecosystem.
- Negotiated custom OEM licensing across engineering, legal, and telecom partners, accelerating partner time-to-market by adapting general-purpose software into license-restricted, appliance-like configurations (before Microsoft had bona fide embedded platforms).

Siemens | Director of Alliances (*2004–2006*) | Senior Product Manager (*1995–1999*)

- Generated $3M in revenue for Siemens by aligning Microsoft and Siemens global sales teams.
- Reduced product lifecycle costs by 66% by consolidating cross-platform R&D operations into a unified Windows architecture from legacy OS/2 and UNIX systems.

EDUCATION & CREDENTIALS

- **Education**: B.A.Sc., Computer Engineering – University of Waterloo
- **Executive Education**: Digital Transformation (MIT Sloan) | Business Analytics (The Wharton School) | Data Science Professional Certificate (IBM)
- **Core Certifications**: CISSP | CDMP (Data Governance) | CAIP (AI Professional) | LCAE (LangChain Agentic Engineer) | Neo4j & Generative AI Certification