RYAN A. BOOTH

Applied AI Architect

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SUMMARY

Applied AI architect and hands-on engineering leader with two decades in infrastructure and networking (CCIE R&S #50117, inactive). I design agentic systems and applied-AI products end to end — and I lead from the trenches, scoping the architecture and then shipping it alongside the team. The through-line of my career is taking something broken or barely working — a collapsed hospital network, a hobby-grade lab platform, a greenfield automation function — and turning it into something that scales. Today I focus on agentic workflows, MCP / A2A / A2P, and local model serving: the practical layer that gets real solutions into production.

PROFESSIONAL EXPERIENCE

Founder & AI Solutions Architect — Blue Ridge Systems, LLC

Nov 2024 – Present

Independent AI architecture and applied R&D. The LLC is the umbrella for consulting and product work; the substance lives in the projects.

- Design and build agentic workflows, orchestration patterns, and AI-native applications end to end — across MCP, agent-to-agent (A2A), and agent-to-payment (A2P) protocols.
- Developed a repeatable agentic-development methodology: building production-grade systems with AI executing under architectural direction — proven on a full SaaS product and on a complex simulation written in an unfamiliar language.
- Built and operate a personal multi-agent harness (Lisa) and a self-hosted observability stack (Milhouse) covering all development and applications, fully operable through AI.
- Run local and secure model serving (Ollama, vLLM) alongside hosted models; build custom MCP servers and agent tooling.

Engineering Manager — Juniper / Apstra

Jan 2021 – Jun 2025

Owned and scaled CloudLabs through the Juniper acquisition; in later years also drove internal AI pathfinding.

- Led a team of ~5 engineers building and operating CloudLabs, a globally distributed lab and demo platform used across sales, support, product, and engineering.
- Survived the Juniper acquisition and made CloudLabs the platform that delivered CEO Rami Rahim's mandate to ramp the entire sales and support organization on Apstra within the first quarter post-close — driving a 500% increase in adoption post-acquisition and ~10% year-over-year growth against a baseline agreed with Apstra leadership.
- Defended the platform repeatedly against better-resourced internal alternatives — winning on merit with a four-to-five-person team.
- Cut environment provisioning from the enterprise norm of weeks or months to hours — five dedicated lab environments stood up in about two hours — by integrating CloudLabs into engineering's Jenkins CI/CD pipeline, putting a fresh product build in front of a customer within hours of release.
- Dedicated roughly 20–40% of later-year capacity to internal AI pathfinding — partnering with engineering teams to prototype and evaluate agentic and RAG-style workflows; deepened this independently after hours, which became my full-time focus on leaving Juniper.

Sr. Automation Solutions Architect — Apstra

Jul 2017 – Jan 2021

Established the platform foundation across software, infrastructure, virtualization, and user provisioning before the Juniper acquisition.

- Took CloudLabs from a handful of internal Ansible scripts to a real, customer-facing cloud platform; scaled the team from 1 to ~5 engineers and rebuilt the architecture for growth.
- Architected the platform: Flask + Celery + Redis backend, React + TypeScript frontend, and KVM-based virtualization of multi-vendor network hardware (Cumulus, Arista, Cisco, Juniper) across multiple AWS regions on bare metal.
- Auto-provisioned external users via HubSpot CRM and internal users via Google Workspace SSO — making the sales motion and product access a single motion.
- Built and open-sourced apstra-api-python, a client library that met network engineers where they were (CLI -> REST) and taught while it did.
- Bridged networking and software-engineering teams to enable customer automation strategies.

Sr. Network Engineer — PNC Bank

Nov 2015 – Jul 2017

- Operated and helped build the core for a nationwide bank: five interconnected datacenters on a 100GbE MPLS backbone (Cisco ASR routers, Nexus datacenter pods) carrying WAN, internet, and all US banking operations.
- Stood up a network automation function: built data, alerting, and troubleshooting tooling so the datacenter engineering team could reach root cause faster; automated config builds, change execution, and data collection with Ansible.
- Led a year-long evaluation to migrate the MPLS DCI (IOS-XR) toward Segment Routing and BGP-LS, targeting more resilient,

programmatic failure routing. Reached UAT; not productionized before departure.
- Early adopter of streaming telemetry — experimental Arista CloudVision work when the technology was brand new — which led directly to being recruited into Apstra.
- Evaluated automation vendors and startups and drove the selection of Network to Code for the datacenter engineering organization.

Sr. Network Engineer — BSA Health System
Sep 2013 – Nov 2015

- Joined the team remediating a hospital network degraded by years of technical debt and failed rebuild attempts — which had culminated in a 3–4 day system-wide outage severe enough to force patient diversions.
- Partnered with consulting firm Bedrock to root-cause the failure — a misarchitected core producing spanning-tree loops and routing instability — then designed and executed the full rebuild.
- Built a proper datacenter fabric (Cisco Nexus 7K/5K/2K), re-established a stable enterprise campus core (6500 VSS + 3850 access), and stabilized every branch and secondary hospital site.
- Standardized switch, router, and firewall templates; integrated multiple clinic acquisitions with a new remote-site model; mentored teammates.
- Earned CCIE Routing & Switching #50117 during this tenure (2015).

Security Specialist — B&W Pantex
Jun 2009 – Sep 2013

- Designed and deployed a secure, redundant core network in a high-availability, mission-critical environment (Cisco Nexus + Palo Alto firewalls); device-hardening standards; Motorola outdoor wireless mesh across a 16,000-acre plant; RADIUS authentication and monitoring.

SELECTED PROJECTS

Tokru.ai — Founder / Architect
2025 – Present

- Independent R&D into agent-native professional and brand presence. Live today: a capability registry that turns a person's existing work into a structured, machine-readable profile — AI-drafted, published at {handle}.tokru.ai, and interactive by both humans and AI agents over MCP and A2A. Roadmap extends the same own-your-presence model to makers, creators, and artists, with A2A/A2P powering agent-driven purchasing.

Root Cause — agentic-development case study
2025 – Present

- A datacenter-simulation game — power, thermal, CLOS networking, cascading failures, a local multi-agent AI narrator — built in Rust + Bevy, a stack I had never used, with 80+ integration tests shipped. AI executed under my architectural direction. Released free / pay-what-you-want on itch.io. The point was the methodology; the game is real.

Milhouse — local-first observability
2026 – Present

- Open-source (Apache-2.0) local-first observability and verified engineering feedback for teams shipping with AI. Work is marked verified only when the signal that caused the problem is observed to have changed — no operator override. Pre-alpha, building in the open.

TECHNICAL SKILLS

Applied AI & Agentic Systems: Agent workflow design, MCP (custom servers), A2A / A2P, RAG, Orchestration patterns, Agentic-development methodology, Claude / Claude Code, LangChain / LangGraph, Local model serving (Ollama, vLLM)

Architecture & Platform: Cloud platform architecture, Distributed systems, Multi-region AWS, KVM virtualization, CI/CD (Jenkins), Cloudflare Workers, Docker, Terraform, Ansible

Languages & Frameworks: Python (FastAPI, Flask, Celery, Redis), TypeScript / React, Rust (Bevy), Astro, SQL

Leadership: Scaled a team 1 -> 5, Player-coach technical leadership, Cross-functional alignment, Mentoring, Executive communication

Networking & Infrastructure: CCIE R&S (inactive), MPLS, Segment Routing, BGP / BGP-LS, Leaf-spine fabric, Streaming telemetry, Multi-vendor architecture, Intent-based networking

EDUCATION & CERTIFICATIONS

MBA, Technology / Information Systems Management — University of Phoenix (2009)

BS, Information Technology (Information Systems Security) — ITT Technical Institute (2007)

AAS, Networking Technologies — Amarillo College (2004)

Certifications: CCIE Routing & Switching #50117 (Issued 2015 — inactive); CCNP (2009 — expired); CCDP (2011 — expired); CCIP (2012 — retired)