AI Systems Architect

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SUMMARY

Staff AI Engineer who builds production systems, not demos. I deployed GPT-3 in enterprise in 2022, before ChatGPT existed.

AI/ML Core: Cognitive Architecture, Model Context Protocol (MCP), Context Engineering, Agent Orchestration, Constrained Autonomy, RAG Pipelines

AI Stack: Claude/Anthropic, OpenAI GPT, LangChain, Python, AST Parsing, Vector DBs

AI Governance: Human-in-the-Loop, Audit Trails, Rollback Design, AI-Consumable Infra

EXPERIENCE

Staff Software Engineer | AI Systems Architect, Unicity International | Provo, Utah   **Jan 2025 – Jan 2026**
Tech Stack: GenAI, LLMs, TypeScript, Python, AST Parsing, PHP, AWS, Kubernetes, GitHub Actions, CI/CD, Context Engineering, MCP

- **Autonomous Migration Swarm:** Built 5-specialized-agent system with human-in-the-loop checkpoints. 289 migrations at <10min each, 90% error reduction. Chose phased rollout over full automation to preserve rollback optionality.
- **Constrained Agent Orchestration:** Ran 34 parallel AI agents with deterministic validation boundaries. Schema mapping went from weeks to hours with full audit trails.
- **Digital Archeology:** Performed bytecode analysis on legacy Acucobol without source access, producing 45+ migration specs, each mapping behavior that had never been documented in 20 years. Constrained model output through authoritative context injection.
- **AI-Consumable Infrastructure:** Designed Truth Source architecture that agents navigate through structured context, not pattern-matching. Reduced speculative output through authoritative context, schema constraints, and deterministic validation.

Principal Engineer, ButcherBox | Remote   **Feb 2022 – Oct 2023**
Tech Stack: OpenAI GPT-3, React, TypeScript, Node.js, Azure, Kubernetes, CI/CD, GitHub Actions, Shopify, Instacart

- **GPT-3 Pioneer (2022):** Implemented enterprise GPT-3 deployment before mainstream adoption. Automated support workflows saving ~2 hours/week/employee. Built evaluation framework for when AI adds value vs. simpler solutions.
- **Cognitive Test Architecture:** Built AI-driven scenario generation for environment-agnostic test data, accelerating CI/CD velocity 3x while maintaining deterministic test outcomes.
- **AI Governance:** Built evaluation frameworks for AI adoption decisions. Not every problem needs an LLM. Created criteria for when AI adds value vs. when simpler solutions suffice.

Engineering Manager / Technical Lead, Unicity International | Provo, Utah   **Nov 2023 – Jan 2026**
Tech Stack: Redis, Datadog, LaunchDarkly, PHP, Laravel, Docker, AWS, CI/CD, TravisCI, BPF

- Led migration of 289 API endpoints achieving 96% production traffic on Laravel, delivering 34% faster response times and 4x order processing improvement (300 to 1,300 orders/5min).
- Achieved $336K annualized savings (FinOps tags + invoices): cloud infrastructure ($278K), DataDog optimization 62.5% ($12K to $4.5K/month), RDS consolidation ($32K). Removed 500,000 lines legacy code.
- Built real-time debugging platform (Redis/Xdebug/BPF) reducing MTTR by 95% (incident logs, 90-day window).
- Diagnosed Redis pooling issue achieving 95% DNS resolution improvement and 97-98% OTP auth improvement.
- **Mentored 10+ engineers through 185+ 1:** 1 sessions; gave 558 peer recognitions fostering positive culture. CTO recognition: 'Tyler is AI' for innovation leadership.
- Led first load test in company history—5 sessions, zero system failures, 85-90% confidence for peak traffic. Attended every strategic meeting throughout tenure.

Senior Lead Software Engineer, ButcherBox | Boston, Massachusetts   **Jul 2019 – Feb 2022**
Tech Stack: Kubernetes, Helm, Docker, Event-Driven Arch, Microservices, Azure, TypeScript, CI/CD, GitHub Actions, Zendesk

- Built Operations engineering team from 0 (solo) to 9 engineers, then broke it into specialized squads: Operations backend, CS Support (Zendesk dashboard app), and backend API migration team.
- Transitioned to lead all 3 teams simultaneously—12 engineers total across Operations, CS Support, and API migration—with clear ownership and delivery accountability.
- Engineered backend optimizations handling 10x traffic surge during COVID with zero scaling incidents, while competitors experienced significant downtime.

Principal Engineer, Janeiro Digital | Boston, Massachusetts   **Jan 2019 – Apr 2019**
Tech Stack: Solid Protocol, React, Node.js, Decentralized Web

- Rescued failing insurance platform 6 months behind schedule by restructuring architecture and coordinating 6-8 remote developers—delivered on-time with zero regulatory compliance issues.
- Delivered real-time quoting engine handling complex state-specific regulations for all 50 states, processing quotes in under 2 seconds across 200+ rule variations.
- Coordinated blended remote/on-site team under pressure, maintaining stakeholder confidence through transparent communication and consistent weekly delivery milestones.

VP of Engineering & Lead Systems Architect (Founder), O2O HQ | O2O Global   **Jun 2015 – Nov 2018**
Marketplace | American Fork, Utah
Tech Stack: AWS, Aliyun, PHP, Rest API, Fintech

- Designed distributed architecture spanning AWS (US) and Aliyun (China), solving 'Great Firewall' latency and enabling seamless cross-border e-commerce.
- Architected unified logistics engine integrating 8+ international providers, automating bonded/free-trade import logic across 3 countries.

Founder & Principal Solutions Architect, Antic Solutions | Springville, Utah   **Jan 2013 – Jun 2017**
Tech Stack: Node.js, Angular, PHP, E-commerce

- Secured and executed multiple NewBalance.com contracts, directing performance engineering that improved page load times 40% and increased conversion rates measurably.
- Operated as Fractional CTO for 5+ enterprise clients simultaneously, managing end-to-end SDLC and establishing engineering standards that outlasted engagements.

Senior Software Engineer & Team Lead, Modernized Media | Draper, Utah   **2014 – 2015**
Tech Stack: Marketplace APIs, Automation, SQL

- Led development of multi-channel sales automation achieving +1,700% YOY sales and -44% overhead reduction (shipping -44%, labor -17%) within 1 month of deployment.
- Designed centralized inventory orchestration engine integrating Amazon, Overstock, NewEgg, and 6+ additional marketplaces into unified platform.

Software Engineer, InsideSales.com | Provo, Utah   **Jul 2014 – Oct 2014**
Tech Stack: AngularJS, Symfony 2, Doctrine, PHP, Salesforce, Git

- Delivered the only two new features for PowerStandings in 90 days while prior developers performed only maintenance—demonstrating high productivity in short tenure.
- Implemented linter, test pass requirements, and minimum coverage commit blockers—establishing code quality gates that raised engineering bar for entire team.

EDUCATION

Computer Software Engineering   2010 - 2013
Utah Valley University

Associate's Degree, Pre-Professional Associate in Science   2007 - 2009
Utah Valley University

PATENTS

Optimized Caching and Updating of Custom Assets RSS Algorithm (2012)
Process Patent for a native asset caching system that significantly improved load speeds across fragmented mobile platforms.

HONORS & AWARDS

Eagle Scout + 3 palms | New Century Scholarship | Dean's List