

SHANUKA VITHANA

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SYSTEMS ARCHITECT | AI SYSTEMS | SOLUTION CONSULTING | FULL-STACK PLATFORMS

PROFESSIONAL PROFILE

Systems architect and technical leader with 9+ years of software development experience and 5+ years focused on AI systems. Lead stakeholder discovery, requirements definition, architecture, integration planning, demonstrations, AI-agent-directed implementation, and technical validation. Experience spans enterprise modernization, applied AI, SaaS products, mobile applications, e-commerce, operations software, and developer infrastructure. Work includes client-facing engagements, internal products, prototypes, and open-source tooling.

PORTFOLIO OVERVIEW

97 documented projects in the October 2026 engineering inventory; 31 marked live; 16 categorized as AI/agent systems; 310 distinct technologies recorded across the portfolio (not a claim of equal proficiency). The inventory includes production and preview builds, internal tooling, prototypes, and concept work—not 97 commercial deployments.

PROFESSIONAL EXPERIENCE

4SSI | Co-Founder & Multi-Agent Systems Architect | 2025–2026

Co-founded 4SSI and set architecture direction for AI-enabled operational and emergency-analysis systems; map user scenarios to agent responsibilities, workflow boundaries, interfaces, safeguards, and review criteria. Coordinate implementation and validate system behavior.

Cilumas | Co-Founder & Behavioral Systems Designer | 2025–2026

Co-founded and launched a cognitive-reset platform for high-stress workplaces; took it from an internal tool to a public product.

Certix | Systems Strategy & Innovation Lead | 2025–2026

Designed learning models and strategic frameworks aligning curriculum, technology and market demand; translated them into operating systems and plans.

Smart Valley UAE | AI & Systems Strategy Consultant | 2024–2026

Designed frameworks for integrating AI and automation into business operations; advised on business strategy across regions and industries.

NOX Foundation | Director of Systems Strategy & Development | 2024–2026

Designed frameworks connecting curriculum, technology and employer demand; guided cross-functional teams implementing scalable education systems.

AidePersona | Founder & AI Systems Architect | 2024–2026

Founded a personal-AI company; designed human-controlled, adaptive assistant architectures that learn user preferences while keeping the user in charge.

Maison TergaDo (Tergado) | Founder & AI Systems Architect | 2021–2026; Founder 2026–Present

Led discovery, technical scoping, system design, client demonstrations, implementation direction, and validation for AI products, business platforms, and developer tooling. Directed AI coding agents, reviewed resulting work, and assessed integration, reliability, security, and deployment readiness.

BotCalm | Technical Strategy & Systems Architect | 2021–2026

Architected enterprise AI and automation systems and assessed emerging technologies for feasibility and scale (2024–2026); as Strategic Systems & Operations Lead (2021–2024), shaped company strategy, operating plans and roadmaps.

Additional venture and delivery work | SigmaClava / Point It Here / related products

Designed and directed small-business software, enterprise modernization concepts, client discovery and pricing proposals, reusable architecture components, and delivery tooling. Engagement structures and commercial status vary by project.

ARCHITECTURE, DISCOVERY & DELIVERY

- Customer and stakeholder discovery: current-state workflow analysis, pain-point identification, requirements gathering, solution proposals, phased roadmaps, technical demonstrations, pricing and scope discussions.

- System design: multi-tenant applications, API integrations, data models, access controls, event and workflow automation, deployment topology, cloud versus on-premises tradeoffs, security boundaries.
- AI-directed engineering: define requirements and acceptance criteria; orchestrate coding agents; review architecture, integration behavior, test evidence, security and release readiness; intervene in design and troubleshooting.
- Evaluation: automated test suites, red-team banks, held-out gold sets, latency checks, accessibility reviews, link audits, release checks, and human review gates.

SELECTED AI AND AGENT SYSTEMS

Policy-impact and policy-assistant systems | Active

Designed self-hosted document/policy impact workflows using LangGraph, vLLM, FastAPI, PostgreSQL 16, pgvector, TEI embeddings, Docker, Open WebUI and sealed-network constraints. Recorded 85 API tests for Secretary Keeper; 61 LangGraph core and 29 policy API tests for Policy Impact. Public code: github.com/shandraco/secretary-keeper and github.com/shandraco/policy-impact.

Aege agent harness | Active

Model-agnostic agent orchestration using Python 3.14, Pydantic AI, MCP, Claude Code workers, git worktrees, append-only SQLite event logs and limits on steps, tokens and spend. 70 tests and six tool guardrails recorded.

ShockTalk university knowledge assistant | Active

Local-first university information retrieval across approximately 22,000 pages, 5,100 courses and 538 programs using Python, FastAPI, SQLite FTS5/sqlite-vec and Qwen3 via mlx-lm. Recorded retrieval p50 126 ms/p95 288 ms; separate site audit checked 956,526 links and identified 18,360 issues.

Restricted-environment AI integration | Active

Designed a sanitizing proxy, MCP station server, signed bundles and AWS Bedrock GovCloud connectivity for a government R&D context; approximately 120 tests recorded. Client not named.

Evidence-based medical coding assistant | Active

Architected ICD-10-CM external-cause coding suggestions with cited evidence spans, clinician/coder acceptance, local models, FastAPI, Docker/mTLS and k3s deployment checks. 97 tests and three held-out gold sets recorded; not represented as autonomous clinical decision-making.

Emergency analysis multi-agent platform | Active

Architecture for 1,800+ specialized AI agents producing structured threat assessments and action recommendations; React, Vite, Supabase Edge Functions, Perplexity and Gemini Vision.

PersonaSwarm and local assistant gateway | Active / Live

PersonaSwarm convenes 250 simulated personas through MCP tools; Assistant Gateway runs local retrieval and document generation using Ollama, FastAPI, SQLite FTS5 and Cloudflare Tunnel.

SELECTED BUSINESS AND ENTERPRISE PLATFORMS

Corporate housing platform modernization | Discovery and active development

Conducted discovery and architecture planning for property inventory, bookings, operations, integrations and staff workflows across a multi-company housing environment. Technical work includes Next.js 15, Neon PostgreSQL, Drizzle, four iOS apps and four web properties. Client identity omitted.

Integrated farm operations platform | Active development

Designed storefront, POS, operations, staffing and native mobile workflows using Next.js 16, TypeScript, Supabase, Stripe Terminal, SwiftUI and Kotlin. Build inventory records 724 tests, 68 migrations and seven scheduled jobs; metrics describe this project, not the entire portfolio.

Museum operations platform | Preview / planned go-live

Architected admissions, ticketing, memberships, collections, retail, kiosk and internal workflows with React/Vite, PostgreSQL, Docker, Stripe, SwiftUI and legacy-data import; recorded a 292-case red-team bank and 17 guardrail layers. Avoids naming the client.

Restaurant operations and payments | Live build

Designed ordering, POS, payments, loyalty, gift-card and mobile workflows using Vercel Functions, Neon, Stripe Terminal, Square, SwiftUI and Kotlin; test records include 29 payment checks and 47 Android tests.

Commerce and immersive storefront | Live

Next.js 15, React Three Fiber, Neon and Swift RealityKit in a multi-channel commerce platform; recorded 188 tests and shipping logic across 33,791 ZIP codes.

Point It Here | Live

Small-business website and client software platform using Next.js 15, React 19, Neon and Vercel cron; 38 landing pages, five languages and 56 tests recorded. pointithere.com.

Little Consult | Live

AI-assisted business research and analysis product using React, Vite, TypeScript, Supabase Edge Functions, Perplexity, Gemini, Stripe and Vercel; approximately 35 edge functions and 872 commits recorded. littleconsult.com.

Pointed Here local discovery platform | Live

Regional business/event discovery using Next.js 16, Expo, PostgreSQL/PostGIS; recorded datasets of 1,131 businesses, 509 events and approximately 160,600 Kansas places.

Wonder Mom Club and FORSSI | Live / Prototype

Community platform with Next.js, Expo, Convex and Anthropic (177+ backend tests recorded); agricultural operations prototype using NestJS, Next.js, Expo and Stripe Connect with a 95% coverage gate.

DEVELOPER TOOLING, ADDITIONAL PLATFORMS & RESEARCH

- Brain knowledge vault and Cockpit: developer knowledge and multi-platform agent interfaces for macOS, Windows and Rabbit r1; Shaleit Agent Kit and Base/ship-check: reusable/open-source agent and release tooling.
- Lookout error tracker and Analyzer: error reporting and pre-launch checks for accessibility, links, SEO, Lighthouse performance and security headers.
- Agent-driven accessibility testing: task testing under screen-reader and keyboard-only constraints; WCAG 2.2 focus, Playwright workers and test builds.
- Additional product work includes Kaleideloze, Thrive Bowlz, Daybook, Hometown Digital, AeroShopNext, AdFlow Autonomous, Clever Consult, Barton Advisor chatbot and other prototypes/concept builds. Status and scope vary.
- 3D, simulation and interactive work includes three.js, React Three Fiber, Unity, Godot, Cesium and geographic data tools; projects range from interactive demos to research concepts.

TECHNICAL CAPABILITIES

AI & agents: LangGraph, Pydantic AI, MCP, Claude Code/Agent SDK, multi-agent orchestration, RAG, vLLM, Ollama, Qwen3, TEI embeddings, pgvector, sqlite-vec, AWS Bedrock GovCloud, evaluation sets, human-in-the-loop review.

Languages & applications: TypeScript, JavaScript, Python, SQL, Swift, Kotlin, C#, Go; Next.js 14–16, React 18–19, Vite, FastAPI, NestJS, Fastify, Astro, Expo/React Native, SwiftUI, Jetpack Compose.

Data & infrastructure: PostgreSQL, Neon, Supabase, SQLite FTS5, PostGIS, Prisma, Drizzle, Convex, Docker/Compose, k3s, Vercel (functions, middleware, cron), Cloudflare, GitHub Actions, Caddy, nginx.

Integrations & quality: REST APIs, Stripe Checkout/Connect/Terminal, Square, Twilio, Firebase/APNs, HubSpot integrations, Playwright, Vitest, pytest, axe-core, Lighthouse, WCAG 2.2, CI/CD, security controls and audit logging.

Business & delivery: stakeholder discovery, architecture diagrams and ADRs, requirements and acceptance criteria, demonstrations, proof-of-concept scoping, pricing, proposals, phased implementation, technical documentation.

EDUCATION & UNIVERSITY INVOLVEMENT

Wichita State University | B.S. Mechanical Engineering, cum laude, 2021 | Minor in Mathematics

Wichita State University | Second bachelor's studies in Management Information Systems | In progress

University and community activities include AI Club support, applied AI discussions, student volunteer technical work and educational technology prototypes. Specific employment/volunteer titles are excluded where not independently confirmed.