

LAYKEN VARHOLDT

AI Engineer

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SUMMARY

AI Engineer and first-place Convex Modern Stack Hackathon winner (\$10K prize) who ships **production-grade AI integrations end-to-end** — from real-time voice agents and multi-model orchestration to document intelligence pipelines. Strong sense for the cost-quality-latency tradeoffs that separate demo-grade AI from systems that survive real users. Deep fluency in TypeScript, Convex, and modern LLM tooling (Gemini, Claude, AI SDK), with production experience delivering software to federal government users.

SELECTED PROJECTS

Atlas Outbound — AI Sales Prospecting & Calling Platform atlasoutbound.app

🏆 *1st Place, Convex Modern Stack Hackathon (\$10K) · Convex · AI SDK · TanStack · TypeScript*

- Shipped an end-to-end multi-agent prospecting system in 14 days that finds qualified local clients for agencies and initiates **trust-based AI sales calls to book discovery meetings** — winning 1st place out of hundreds of teams.
- Integrated real-time voice AI with Twilio, tuning turn-taking, barge-in handling, and persona prompting so calls sound conversational rather than robotic — the single hardest surface of the product.
- Architected the agent loop around structured outputs and tool calls rather than free-form prompting, making agent behavior inspectable and cheap and idempotent to replay against Convex's reactive backend.

OmniBid — AI Proposal Operations for Government Contractors omnibid.vercel.app

Convex · TanStack Start · Gemini Flash · Clerk · React

- Against a **\$700B+ annual federal contracting market**, turns 200-page federal RFPs (PDF, SAM.gov URL, or solicitation number) into structured compliance matrices in minutes, enabling small businesses to compete on bids they previously couldn't staff.
- Replaced an initial LlamaParse + Claude Sonnet pipeline with direct Gemini Flash multimodal PDF extraction, cutting per-document cost by **roughly an order of magnitude** while preserving extraction fidelity on complex tables and clause structures.
- Ingests solicitations directly from the SAM.gov Opportunities API with resourceLinks for on-demand document fetch, driving the full pipeline from discovery through compliance matrix without manual uploads.

Mesh Mind — Multi-Model AI Chat & Research Interface meshmind.chat

Multi-model orchestration · AI SDK · TypeScript · Convex

- Coordinates multiple frontier models in a single conversation, running a **"research and debate" process** across models before synthesizing a final, concise answer — a practical pattern for reducing single-model bias and hallucination.
- Implemented critic-synthesizer roles with structured handoffs via Convex scheduled functions, allowing each stage to be inspected, retried, or swapped independently without restarting the full debate.

Acadiana Web Design — Production Multi-Tenant SaaS Platform acadianawebdesign.com

Convex · Stripe · Twilio · Next.js · TypeScript

- Built a production multi-tenant SaaS platform with automated billing and compliance workflows: clickwrap legal agreements, recurring Stripe subscriptions, automated lead pipeline, and a dedicated client portal.
- Drove Twilio A2P 10DLC SMS campaign approval end-to-end, including CTA opt-in verification against repeated error 30909 rejections — a compliance surface most engineers have never touched.

PROFESSIONAL EXPERIENCE

Software Engineer — Zyware Technologies

Sep 2023 – Present

Remote · Client: U.S. Department of Labor

- Build and ship frontend (React, Redux) and backend (Java) features for **large-scale U.S. Department of Labor web applications serving federal users in production**, operating inside an Agile/Scrum team with Jenkins-based CI/CD.
- Independently designed and implemented full-stack features for bulk establishment transfers and PDF uploads across React, Java, and PHP/Drupal, **materially reducing processing time for DOL end users**.
- Led the migration of a critical DOL application from React v15 to v18, refactoring 50+ class components to modern functional components with hooks and improving runtime performance.

TECHNICAL SKILLS

AI / ML: AI SDK, Gemini (Flash & Pro), Claude / Anthropic API, RAG, agentic systems, multi-agent orchestration, structured extraction, tool calling

Languages: TypeScript, JavaScript (ESNext), Java

Frameworks & Platforms: React, Next.js, TanStack Start / Router, Convex, Tailwind CSS, Clerk

Tooling & Infra: Git, Jenkins, Vercel, PostgreSQL, MySQL, Stripe, Twilio

MILITARY SERVICE

U.S. Air Force — Munitions Systems (2W0X1), 4 years active duty. Honed leadership and problem-solving under high-stakes, zero-margin conditions.