

# Joshua Bemenderfer

Forward-deployed AI engineer

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## SUMMARY

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Software engineer and Linux sysadmin with 13 years of professional experience. I build AI systems end to end: agents, MCP servers, the apps around them, and the servers they run on. Eight years at a nonprofit in seven countries, building and migrating the systems its staff use every day.

## SKILLS

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- **AI:** Claude Agent SDK, Claude Code, MCP servers and tools, Vercel AI SDK, OpenAI, Anthropic, Google and OpenRouter APIs, local models (llama.cpp, Whisper, Piper), test harnesses for checking AI-written code
- **Languages:** TypeScript, JavaScript, Rust, C, PHP, Python, SQL, GDScript
- **Web:** Vue, Nuxt, Node.js, Bun, Directus, PrestaShop, PWAs
- **Infrastructure:** Linux, Docker, Caddy, Nginx, Cloudflare (Workers, Durable Objects, D1), AWS Lambda, Google Cloud, Kubernetes, MySQL, PostgreSQL, SQLite, GitHub Actions

## EXPERIENCE

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**Senior Developer and Systems Administrator** · Creation Ministries International · 2018-present

- Wrote an MCP server that gives AI assistants search and read access to the organization's published content.
- Built an AI actions extension for Directus: text and image generation from five model providers, available as REST endpoints and as steps in staff automations.
- Second-largest contributor (1,680 commits) to the rebuild of the organization's public platform on Nuxt, Directus and Cloudflare Workers; wrote most of its CI, deploys and dev environment.
- Migrating a legacy subscription system: deterministic ETL, fidelity checks against the old system, staged two-way sync (off, inbound, dry run, live).
- Consolidated about 20 RPC services into three apps; rolled out Office 365 sign-in across eight internal apps; 544 commits to the web stores used by offices in seven countries.

**Independent AI projects** · [thederf.com](https://thederf.com) · 2025-present

- **uApp:** a Rust runtime for single-file apps that an embedded AI assistant builds and edits. Runs natively and in the browser (WebAssembly).
- Voice assistant on the Claude Agent SDK with MCP tools, local speech recognition and synthesis, and spoken confirmation before any change.
- MCP servers for Directus, a church management system, a file server, and a browser CAD app that an agent can drive from modeling through slicing.
- **sqlite-rls:** row-level security for SQLite in C, red-teamed with 30 adversarial tests.
- Four multiplayer browser games on Cloudflare Workers and Durable Objects, with simulation harnesses that check AI-written game logic against expected results.
- Reverse-engineered Bluetooth thermal printer protocols into CUPS drivers; Android device-owner apps; self-installing Linux kiosk images.

**Earlier work** · 2013-2018

- **Full-stack PWA developer**, VIPetTag: veterinary records PWA, Vue.js, Node.js, PostgreSQL on Kubernetes and Google Cloud.
- **Development team lead**, ioAware: architecture, schemas and UI; Angular 2 and Vue.js front ends, Node.js API on AWS.
- **Voice app developer**, CMC Markets and BlueAnchorSEO: Alexa and Google Assistant app on AWS Lambda.
- **Front-end consultant**, HabitStack; **freelance developer** through Upwork.

## OPEN SOURCE AND WRITING

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- Author of [prerenderer](https://github.com/joshbemenderfer/prerenderer); top contributor to [prerenderer-spa-plugin](https://github.com/joshbemenderfer/prerenderer-spa-plugin) (7,300 stars).
- About 100 web development articles for Alligator.io (now part of DigitalOcean).
- Merged contributions to Directus, PrestaShop, vue-loader and Electron.

## OTHER

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- Taught English full-time in Weihai, China, and a Western culture workshop at Shandong University (2015, 2017-2018).