Robb Doering

Senior Full Stack Engineer · Agentic Engineering

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Summary

Senior full stack engineer (TypeScript, React, Python) with 6+ years of professional experience, from Google AdSense to satellite command-and-control software. Three years of independent AI work became full-time agentic engineering: directing coding agents in isolated Git worktrees and building the MCP servers, code review, guardrails, and recovery tooling around them. I relish any opportunity to apply science or philosophy to engineering challenges.

Skills

Languages: Python, TypeScript/JavaScript, C++, Java, SQL, Bash

Frontend: React, Redux, Next.js, Astro, HTML/CSS, Tailwind CSS, Bun

Backend and data: REST APIs, WebSockets, Node.js, Flask, PostgreSQL, embeddings, RAG

Agentic engineering: Claude Code, Codex CLI, Gemini CLI, MCP servers, skills, hooks, Git worktrees

Models: LiteLLM, vLLM, llama.cpp, Hugging Face Transformers, QLoRA fine-tuning, Marker OCR

Testing and operations: pytest, Jest, A/B testing, GitLab CI/CD, Linux, Docker/Podman, systemd services

Experience

Doering Thinking Machines · *Software Engineer (self-employed)* Aug 2023 – Sept 2026

AI prototyping and agent tooling in Python and TypeScript, published as ~30 open-source repositories.

- **Agent orchestration.** Directed coding agents (Claude Code, Codex CLI, Gemini CLI) through scoped tasks in isolated Git worktrees, with automated code review as the gate to main: nearly 2,400 agent branches merged across 45 repositories in Q3 2026.
- **MCP integrations.** Built four FastMCP servers that replace fragile shell calls with structured tools: inTact (on PyPI) heals stale agent edits through seven increasingly permissive matches and refuses ambiguous ones; the others handle Git with commit-time secret scanning, Plane task tracking, and task routing.
- **Code review and guardrails.** Built myGate, which reviews each GitLab merge request from an immutable Git snapshot, posts findings as discussions, and holds the merge until major findings are resolved: 1,500+ merges reviewed from mid-August through September 2026. Its hooks block costly nested agent launches.
- **Recovery.** Built tooling to resume interrupted agent runs: session analytics classify how each run ended (frozen on a tool call, aborted), and a resumer agent rebuilds the work from transcripts, task records, and repository state, then finishes only what remains.
- **Engineering standards.** Codified the workflow as 29 policy documents with citable rule IDs and 46 agent skills, which myFleet projects from one canonical copy into eleven agent harnesses. Held the libraries to GitLab CI, deep type coverage, and Sphinx documentation, with ~9,900 pytest cases across four of them.
- **Models and retrieval.** Ran a self-hosted LiteLLM gateway with sealed credentials; built embedding search on PostgreSQL; served models with vLLM and llama.cpp; fine-tuned with QLoRA on an RTX 4090.

Google · *Software Engineer, AdSense* Feb 2022 – June 2023

Modernized the JavaScript ad tag of AdSense, a multi-billion-dollar-a-year product, and implemented new ad formats across browser (TypeScript) and backend (C++) code.

- Owned features from start to finish at Google scale, meeting strict performance requirements and shipping through Google's production deployment systems.
- Set up, monitored, and analyzed A/B experiments on billions of ad queries to verify the impact of my changes, using Python notebooks and internal tools.
- Investigated and documented JavaScript behavior for scripts that run in over 2M browser environments.

Space Ground System Solutions · *Software Engineer* June 2019 – July 2021

Helped bring a command-and-control system for government satellites to the web, building features in React/Redux, Java, and C++ on data-intensive APIs from NASA, DoD, and commercial partners.

- Delivered ~12 full stack features end to end, some from design documents and others where I led requirements gathering and UX design.
- Chosen as acting project lead for six engineers during the lead's three-month leave; ran Agile ceremonies, met with stakeholders, and cleared blockers.
- Introduced Jest unit tests to a lightly tested codebase and helped coordinate regular functional testing.

Fujitsu Network Communications · *Automation Tools Intern* May 2018 – Aug 2018

Built a Java/Spring MVC and JavaScript web application that formalized a project-management procedure and collected its data for executive analysis.

Projects

The Epstein Index · *Public Document Explorer* Astro · React · OCR

- A public explorer for over 45,000 DOJ case-file documents, fed by an eight-stage Python pipeline (download, OCR, clean), with an interactive React timeline, maps, and a network graph.

Wikiparse · *Wikitext Translation Pipeline* Python data pipeline

- Extracted 45M citations from a full English Wikipedia dump on home hardware and published a Hugging Face dataset of 5.1M articles; converts wikitext to Markdown with composed regular expressions.

doering.ai · *Professional Portfolio Site* Astro · TypeScript

- An Astro and TypeScript site on Bun and Tailwind CSS, with accessibility and reproducibility checks.

myBasis · *Ergonomic Python Utilities* Python library

- A broad extension of the Python standard library, published on PyPI as my-basis, centered on runtime type coercion, text processing, and functional programming.

Sublime Text tooling · *Plugins, Language Servers, and Test Infrastructure* Python · Rust · LSP

- A mock editor API for headless pytest, a Rust-backed language server for `.sublime-syntax` grammars, and LSP-pyrefly for Meta's pyrefly type checker.

Education

B.S. **Vanderbilt University** · *Computer Science* Nashville, TN
Minors in Philosophy and Spanish. Aug 2015 – May 2019

Georgia Institute of Technology · *Computer Science, Interactive Intelligence* Online
Completed 8 of 10 courses toward an M.S.; degree not completed. Sept 2020 – June 2022

- Coursework included AI, Knowledge-Based AI, Human-Computer Interaction, Networks, Operating Systems, and Visual Analytics.