Steven Cochrane

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SUMMARY

Computer science senior who builds at every layer: from hand-written C++ on Linux to REST, SOAP and MySQL backends, a Docker and Tailscale home server running since 2024, and a multi-agent system that builds software.

EDUCATION

B.S. in Computer Science May 2027

Arizona State University (Online)

Relevant coursework: Data Structures & Algorithms, Operating Systems, Distributed Software Development, Computer Organization

TECHNICAL SKILLS

- **Languages:** Python, C++, JavaScript / TypeScript, Java, SQL, Bash
- **AI-assisted development:** Claude Code (plugins, multi-agent workflows), Ollama local models, LLM benchmarking
- **Backend & systems:** Node.js, REST & SOAP APIs, MySQL, Docker, Linux, systemd, Tailscale, WireGuard, Caddy, Git, Jupyter, Agile / Scrum

PROJECTS

Roughcut: Idea-to-Software Agent System 2026–Present

Python, Claude Code plugin, Ollama | I designed it; Claude wrote the code, by my choice to work AI-first | github.com/fellobello/roughcut

- Designed the architecture (planner, parallel builders, synthesizer, tester, questioner) as async agents coordinating through shared files, and a round loop where users answer only the big decisions, controlling scope and cost.
- Designed interfaces-first planning: the planner writes module interfaces as code before builders start, and a separate agent writes tests without reading the implementation, so tests check the spec.
- Troubleshot agent behavior, not just code: benchmarked models per role (ollama-bench), traced decisions through the shared files, and routed stuck tasks to the user with a built-in editor.

ALPR Route Planner 2026

v1.0, web + Android | JavaScript, Node.js, Leaflet, Capacitor | built by Roughcut, then Claude from my direction | fellobello.github.io

- Map of license plate reader cameras that plans a route around them. Roughcut built it from one sentence (6 modules, all tests passing); I directed it to 1.0 with a redesign, place search and an Android app.
- Survives the camera service going down: on-disk tile cache, stale-while-refresh, backup mirrors; tests run offline.

Wikigraph: Prerequisite Graphs from Wikipedia 2026

Python (standard library only), JavaScript, three.js | I designed it; Claude wrote the code | live demo

- Designed crawl rules (definition links only, most-cited concepts first under a node budget) and a pipeline that breaks cycles, ranks by PageRank and betweenness, then reduces transitively; one run mapped 413 concepts in 19 levels.

Webcam Vision Pipeline from Scratch 2025–Present

In progress (hand detection next) | C++23, Linux V4L2, CMake | OpenCV only for display | github.com/fellobello/gesture_capture

- Hand-wrote V4L2 frame capture (ioctl, mmap buffers), fixed-point YUYV-to-RGB, a separable box blur (2k vs. k^2 reads per pixel), HSV skin segmentation and BFS flood fill into bounding boxes.

EXPERIENCE

Software Engineering Capstone 2026

DigiClips Inc. (ASU industry capstone, Scrum team) | Media-search platform for journalists | REST API, MySQL

- Fixed a MySQL-backed search API returning too few rows when filters consumed the query limit, by over-fetching until the page filled; added automated tests.
- Fixed a privacy bug that exposed one user's search history to the next user on a shared computer.

Technical Support & Customer Service Agent 2023

Afni (Verizon & AT&T accounts) | Tucson, AZ

- Troubleshot connectivity and account issues for customers over the phone; met resolution and retention targets.

Other work: Avila Senior Living (2026) • Cloud Slingers (2025–2026) • Best Buy (2023) • Ike's Coffee and Tea (2022–2023) • Bruegger's Bagels (2020–2021)

INTERESTS

Restoring retro tech and games, making music in Ableton, philosophy and religious studies, the alt scene and design