

Nathan Tebbs

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SKILLS

Languages: C/C++, Java, Python, Go, Rust, Odin, JavaScript, TypeScript, Lua, Emacs Lisp, Bash, SQL, HTML/CSS

Tools: Git, GitHub Actions, Docker, Linux, make, cmake, systemd, GDB, Valgrind, SSH, ufw, SQLite, PostgreSQL, VMware/KVM, Neovim & Emacs, Typst/LaTeX, Vercel

Libraries: OpenGL, SDL3, Raylib, Tokio, pandas, NumPy, scikit-learn, geopandas, statsmodels, Streamlit, React, Auth0

EDUCATION

University of Arizona

Bachelor of Science in Computer Science

• Relevant Coursework: Compilers, Database Design, Algorithms, Computer Networking, Cloud Computing, Systems Programming

South Puget Sound Community College

Associate of Arts

Tucson, Arizona

August 2023 — May 2026

Olympia, Washington

September 2021 — May 2023

WORK EXPERIENCE

Software Engineer (Full-Stack)

Sound Psychiatric Services

January 2021 — Present

Olympia, Washington

- Build and maintain the practice's public website, a landing page for around 100-120 patients that routes existing patients to their HIPAA-compliant payment and telehealth portals and informs prospective patients before an in-person or Zoom visit.
- Migrated hosting off a paid Squarespace business plan to a static setup, saving the practice over \$5,000 a year, and kept the existing email and domain in place so the transition caused no disruption. Built in plain HTML, CSS, and JavaScript to stay simple and low-maintenance.

Undergraduate Teaching Assistant (CSc 346 Cloud Computing)

University of Arizona

January 2025 — May 2025

Tucson, Arizona

- Assisted students with Linux-based cloud VMs, web servers, networking, and deployment issues.
- Troubleshoot configuration errors and documented common failure modes and resolutions.
- Worked with other teaching staff to meet course timelines on grading and office hours.

PROJECTS

Author, Mach: 2D Game Engine and Factory Game (github.com/vetr0s/mach)

June 2026 — Present

- Building a 2D game engine and the isometric factory game that runs on it, in pure C with no frameworks. The game is a routing puzzle: droppers spit out ore, conveyors carry it, upgraders raise its worth, and furnaces bank it as money you spend to expand the grid.
- Split the engine out into `mach.h` (github.com/vetr0s/mach.h), a zlib-licensed single-header library any C project can drop in and compile: an OpenGL 3.3 batch renderer with sprite atlases, a bitmap font, arena allocators, and a UI layout binding, with no mutable global state in engine code.
- Built hot reloading: the game compiles to a shared library the running host reloads on save, and because all state lives in host-owned memory, new code swaps in with no restart and no lost state. The simulation is fat structs in flat arrays out of one arena, built as a unity build in a single compiler call. CI tests on macOS, Linux, and Windows, and each git tag ships a static binary per platform.

Author, GateRelay: Secure Linux TCP Relay Service (github.com/vetr0s/gaterelay)

January 2026 — February 2026

- Built a production-grade TCP relay in Go forwarding public ingress traffic to a controlled backend, with connection limits, timeouts, graceful shutdown, and structured JSON logging.
- Hardened it with defense-in-depth: a non-root systemd user, sandboxing (capability dropping, syscall filtering, ProtectSystem), ufw firewall rules, and SSH key-only access, with a documented threat model.

Collaborator, Urban Crime Data Analysis (github.com/vetr0s/tucson-crime-analysis)

March 2025 — May 2025

- Ran a multivariate analysis of Tucson Police crime data against neighborhood income and streetlight locations to test how socioeconomic and environmental factors relate to crime.
- Built preprocessing, geospatial, and modeling pipelines in Python (pandas, geopandas, scikit-learn, statsmodels) using Ridge Regression, Random Forest, Logistic Regression, and OLS to predict high-crime wards.

EXTRACURRICULAR ACTIVITIES

FIRST Robotics Competition team 4450 (Safety Captain)

September 2021 — June 2023

- Led safety operations for a competitive engineering team, enforcing shop, electrical, and tooling safety standards under strict build and competition deadlines.
- Co-planned an international outreach program, coordinating risk mitigation for a \$60,000 fundraiser that sent 17 students and metal-based FTC robotics kits to Cairo, Egypt for hands-on robotics education.

Google Developer Student Club

August 2023 — May 2026

- Participated in peer-led workshops and collaborative projects on modern software development and Google Cloud technologies.

HackAZ 2026

April 2026 — April 2026

- Built and deployed GridWise Energy with 3 teammates in a 24-hour hackathon, a live web app analyzing energy usage from local power-grid data, on a React/TypeScript, Vercel, and Neon Postgres stack.
- Shipped auth, time-series usage tracking, AI chatbot insights, an ML forecast model, and an opt-in global leaderboard.