

Eli Perez

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Projects

Until Every Cage is Empty | Axum (Rust), Python, JavaScript [Live Website](#) | [GitHub](#)

- Led development of a first of its kind, global mapping project for animal rights, reaching **3,000** monthly users.
- Engineered a high-performance RESTful API in Rust, to serve over **38,500** documented facilities to journalists, activists and researchers
- Managed open-source development, collaborating with a global team of developers, securing a **\$1,000** seed grant from the Pollination Project and crowd-funded donations from around the world
- Standardized data from dozens of public sources using Python into lightweight, flat-file data stores, and visualized using Leaflet JS
- Drove project adoption through social media outreach, achieving over 100k views and gaining recognition from major organizations like PETA and CAFT, and animal rights newsletters

Electron Redstone CPU | Rust, Custom Assembly Language [GitHub](#)

- Designed and built an entirely custom 8-bit CPU from logic gates in Minecraft, demonstrating a fundamental understanding of computer architecture and low-level systems
- Complete with an assembler and emulator built in Rust, example programs, and a VS Code extension for syntax highlighting. Entirely custom ISA, turing complete, inspired by RISC-V standards

Full-Stack IoT Telemetry Platform | Embedded Rust (Bare-metal), Python [GitHub](#)

- Authored a custom DHT11 sensor driver in Embedded Rust (no_std) for the ESP32 and a Python Flask API with SQL to ingest and persist real-time sensor data.
- Engineered a responsive JavaScript frontend, deployed on Cloudflare Pages, to visualize both live and historical time-series data on a dashboard.

Experience

Software Engineer (Volunteer) | Fish Defender (C3 Nonprofit) – Remote Oct 2025 – Present

- Developing a full-stack, serverless mapping application to visualize fish-friendly dive locations for activists and researchers, with a Vanilla JS front end to visualize and filter data points on an interactive map.
- Engineering a serverless backend on Cloudflare Workers to serve as a RESTful API that interfaces with the Google Sheets API.
- Collaborating directly with the nonprofit founder to gather requirements, define project scope, and manage the delivery timeline.

Education

Southwestern College | AS for Transfer, Computer Science & Mathematics Expected May 2026

- **Coursework:** Computer Architecture, Data Structures & Algorithms, Object-Oriented Programming

Skills

- **Programming Languages:** Rust, Python, Javascript, TypeScript
- **Technologies:** Axum, Cloudflare, Flask, SQL, Pandas, Selenium, Leaflet.js

Achievements & Interests

- Scored a 5 on the AP Computer Science A exam (self-studied) and passed 5 total AP exams in senior year.
- Founded and led a school Jazz Band as lead trumpet; recognized as 'Most Outstanding Musician'.
- Volunteered for three years as a Music Tutor, mentoring middle school students through one-on-one and group sessions