David Cruz

Seeking Computer Engineering internship for Summer 2025

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Education

BS in Computer Engineering Sep 2022 – Jun 2026

California Polytechnic State University, San Luis Obispo

Experience

IT Specialist Apr 2022 - May 2024

JC Property Maintenance & Preservation, Inc

- Managed Linux-based cloud backend, including DNS, email services and web hosting, ensuring stability and flexibility of web stack for future teams, as well as cost efficiency.
- Created full-stack website from scratch with Nginx, Node.js, React, Next.js and Tailwind, achieving substantial savings in place of traditional agency fees. Implemented responsive design for use on any device, accessibility for WCAG compliance providing the ideal experience for customers.

Computing Projects Jun 2017 - Present

Various Locations

- Created x86 assembler from scratch for use in JIT compilers in Rust. Allows easy dynamic assembly execution without overhead for constrained environments.
- Developed several software and hardware programming languages with AOT compilation, transpilation and heavy optimization using static analysis.
- Designed RISCV32I compatible CPU core with SystemVerilog, running on FPGA hardware and tested through simulation testbenches in Vivado.

Skills

- Rust, Python, Lua, C/C++, Java, Typescript
- Compilers, Systems, Linux, Reverse Engineering
- x86-64, ARM, RISC-V, ISA Design, FPGA
- SystemVerilog, Tcl, Vivado FPGA, Icarus Verilog Simulator, UVM
- Github Pages, Github Actions (CI), Docker
- Collaboration via Git, GitHub Teams
- Test Driven Development, PyTest, Jest
- Tailwind, React, Vite, Webpack
- Nginx, Flask, DNS, Networking, GUI, Web Design

Profile

- Enjoy actively participating in tech communities and open source software past 5 years.
- Given free time, you'll find me working on my own software or biking.
- Run technical blog detailing guides & trials of mine.
- Love tinkering with things, starting from scratch to fully understand and keep it simple.