

Jesse Taube

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TECHNICAL SKILLS AND INTERESTS

Languages: C, C++, Shell, Verilog, Python

Tools & Technologies: Git, KVM, Linux Kernel, U-Boot, Buildroot

Protocols & Libraries: Networking, C&C++ STL, I²C, SPI, RS232

Hardware: Experienced with reading schematics, using oscilloscopes, multi-meters, and low-speed routing

Areas of Interest: Embedded Linux, IOT and IOT security

EXPERIENCE

• Rivos Inc

May 2024 - Sep 2024

Kernel Developer

Remote

- RISC-V architecture improvements in Linux Kernel.
- Python and bash based test fixtures.
- Custom Debugging hardware in QEMU and Riscv-isa-sim.

• D3 Engineering

May 2023 - Aug 2023

Intern Kernel developer on the Nvidia Jetson Team

Rochester, New York

- Linux Kernel driver development in C for GMSL and FPD-link cameras.
- Writing device trees and device tree overlays.
- Reading schematics and datasheets.
- Working with oscilloscopes and multi-meters.
- Debugging hardware and software issues, such as MIPI CSI data loss.

• Part-time Freelancer

Jun 2018 - Present

Hardware and Software developer

Hybrid

- Writing Kernel drivers for custom hardware.
- Development of custom test boards.
- UL-certified SOM-based custom motor control board with HDMI.
- Programming tutor for University and high school students.

PERSONAL PROJECTS

• Linux Ports

Porting of IMXRT and RP2350(Raspberry Pi Pico 2) to the Linux Kernel

- Writing Kernel drivers in C and Device Trees
- Debugging over JTAG with GDB
- Using agile development with co-developers

• KISC-V

A KISS principle RISC-V32I CPU, written in SystemVerilog

- Written in SystemVerilog and debugged with GTKWave
- Used Vidado and Quartus to run on Xilinx and Altera FPGAs
- Microcode generation in Python
- Custom trap handler in C and Assembly to emulate CSR instructions
- Can run No-MMU Linux

• Personal Blog

Blog with backend in NodeJS hosted Locally

- Dynamic and static pages in NodeJS using Express
- JQuery and Bootstrap for frontend
- Locally hosted on servers running Cockpit's KVM Dashboard

EDUCATION

• University of Massachusetts Lowell

2022-26

Bachelor of Computer Engineering

• Newton South High School

2022

- LigerBots - FRC team 2877
- Science team