
Skills

Software: C, C++, Python, SystemVerilog, Make, Bash,, Linux/UNIX, Go*, RISC-V Assembly*, HTML*/CSS*/js*/ts* * = Basic
Hardware: TCP/IP, UDP, I2C, SPI, UART, SPMI, Spectrum Analyzer, Thunderbolt/PCI, DMA, Logic Analyzer, Oscilloscope
Libraries/Tools: Git, Cmake, Pandas, Perforce, Kibana, PyVISA, matplotlib, Jupyter Notebooks, CUDA, Angular*

Experience

Apple, Inc.

SOFTWARE ENGINEER, INSTRUMENT ENGINEERING

MARCH 2026 – PRESENT

- Developing multi-threaded drivers (user + kernel) and firmware in C/C++ (20) for an ARM-based platform running Yocto Linux.
- Continued release and maintenance of new features in-use by 100's of engineers with newly architected APIs for simplicity and scale.
- Contributing to precision RF and analog test equipment through cross-functional collaboration with FPGA & SW teams.

Cisco Systems, Inc.

SOFTWARE ENGINEER, SILICON ONE VALIDATION

JULY 2025 – MARCH 2026

- Deployed & Maintained an MVP internal web application for JSON visualization, driving multi-team adoption and time savings (> 90%).
- Delivered on internal tooling, automation, and C++ SDK work using Coverity, enabling debug efforts and improving code quality.

Apple, Inc.

SOFTWARE ENGINEERING INTERN, FIRMWARE

JUNE 2024 – SEPTEMBER 2024

- Integrated a LED PWM driver in C++ into the Silicon Validation Board Support Package (BSP) then deployed in the following release.
- Expanded testing capabilities through support for configurations with empty EEPROMs via JSON & C++, broadening validation scope.
- Released a bulk file transfer C++ API command in SiVal BSP for efficient firmware loading, streamlining firmware & system validation.
- Optimized the bulk transfer tool to provide a better UI through reducing configuration overhead and complexity for improved usability.
- Performed the continuous documentation of progress made on all fronts above in confluence to the expected level of management.

Cisco Systems, Inc.

ASIC ENGINEERING INTERN, SILICON ONE ROUTING

JUNE 2023 – SEPTEMBER 2023

- Added a packet pipeline monitor to testbench in SystemVerilog to narrow debug perspective from the entire system to few IPs.
- Contributed sequence generation code to testbench in SystemVerilog to enable the testing of new features and quicker bug triage.
- Deployed a full chip benchmarking tool for 1,000's of regression tests using pandas + matplotlib to lead test logging efforts.

NVIDIA Corporation

SOFTWARE ENGINEERING INTERN, GPU INFRASTRUCTURE

JUNE 2022 – DECEMBER 2022

- Developed a compute environment & suite of productivity tools for RTL and Design engineers to improve workflow.
- Coded a script to contrast build resource consumption of 2 ASIC environments, noting 72% job growth & +52% wall time.
- Wrote a Python script using Pandas to automate the distribution of 10,000's of compute resources on Jenkins for 100+ teams.
- Benchmarked build times & runtimes by running regressions to debug bottlenecks, resulting in a 3x speedup in build times.
- Created data visualizations within the ELK stack to optimize workflow, data storage solutions, and infrastructure decisions.

Cisco Systems, Inc.

SOFTWARE ENGINEERING INTERN, POWER TESTING

JUNE 2021 – SEPTEMBER 2021

- Supported Cisco's Powertest Team with validation automation to help reduce costs and time associated with testing.
- Coded a Python script to support 50+ functions for an Keysight oscilloscope & Cytec switching system with the PyVISA framework.
- Enabled engineers to perform industry-standard tests remotely without reliance on LabVIEW licenses (\$5,000/license/year).

Education

California Polytechnic State University, San Luis Obispo, CA

GPA: 4.00

Master of Science in Computer Science

Bachelor of Science in Computer Engineering

Coursework: Data Structures, Algorithms, Object-Oriented Programming, Computer Architecture, Microcontrollers, Operating Systems, Distributed Systems, Embedded Systems, Computer Networks, Network Security, Parallel Computing, Machine Learning

Involvements: Instructional Student Assistant – Circuit Analysis (3 months) + Digital Design (3 months)
Undergraduate Researcher – Autonomous Drones (8 Months)

Projects: Round-Robin Scheduler (C++) | Heartbeat Algorithm (C++) | Multithreading Library (C)

Interests

Hikes, Runs, Biking, Camping, Backpacking, Skiing, Photography, Board Games, Climbing, Reading, Cooking, Road Trips, Credit Card Churning