

JARED MOULTON

Logan, Utah

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Embedded Systems Software Internship with Hypercraft

EDUCATION

Utah State University

Bachelor of Science in Computer Engineering

Logan, Utah

May 2025

- **Courses:** Embedded Real Time Systems, Compiler Architecture, Computer Systems Programming and Architecture, Microcontrollers

WORK EXPERIENCE

Baker Hughes / Bently Nevada

Firmware Engineer

Remote / Minden, Nevada

May 2022 – Aug 2024

- Developed a USB communication protocol that maximizes wire efficiency and memory optimization; implemented across C (device-side) and C# (software backend)
- Engineered a high-performance embedded application featuring custom hardware, optimized driver libraries, and efficient use of DMA and ISRs
- Created essential drivers for SPI, I2C, and UART, ensuring robust device communication
- Designed and deployed a cross-platform graphical user interface, enhancing user interaction and system accessibility
- Contributed to hardware design enhancements through targeted, constructive feedback
- Significantly increased the performance of dual-channel direct digital synthesizer firmware, achieving a speed improvement of over 100x
- Developing DFU capabilities for an embedded system, enabling seamless firmware updates over USB

Fox Pest Control

Sales Associate

Albany, New York

May 2021 – Aug 2022

- Gained experience in sales processes and techniques by consistently closing sales
- Enhanced negotiation skills through direct customer interactions, generating over \$50,000 in revenue

PROJECTS

Hardware Desk Controller - Reverse Engineered

Aug 2023 – Apr 2024

- Decoded half-duplex UART communication using a logic analyzer
- Developing a Bluetooth-enabled remote control using ESP32C3 for enhanced functionality

Compiler

Sep 2022 – Jan 2023

- Designed and built an interpreter and compiler for a custom programming language
- Developed a custom virtual machine
- Implemented robust error handling and clear user feedback
- Utilized test driven development to ensure correctness

Open-Source, Low-Level UI framework

Apr 2023 – Apr 2024

- Contribute regularly to a high-performance, cross-platform UI framework
- Perform code review for external contributions

High-Performance Project Management TUI

Feb 2023 – Apr 2024

- Built a high performance TUI for managing projects as TMUX sessions
- Maintain and guide external contributions from 15 contributors

SKILLS, LANGUAGES, INTERESTS

- **Programming Languages:** C, Rust, C++, Python, Java, Verilog
- **Equipment:** Oscilloscope, Logic Analyzer, STM32, FPGA
- **Interests:** Mountain Biking, Skiing, Programming, Family
- **Languages:** English (Native speaker), Spanish (Fluent)