

PETER H

Longmont/Boulder, CO | (303) 264-9436 | work@peterhindes.com | peterhindes.com | LinkedIn:
YourLinkedInHandle

TECHNICAL SKILLS

Languages/Hardware: SystemVerilog, C, C++, Python, Bash, GoLang, MicroPython

Tools/Platforms: KiCAD, Altium Designer (Level 2), STM32 (Bare-Metal), Docker, KVM

Concepts: FPGA, Embedded Systems, PCB Design (I2C, SPI), Linux, RTOS, Comp Architecture

EDUCATION

University of Colorado Boulder (CU Boulder), Boulder, CO

B.S. in Electrical & Computer Engineering | Expected Graduation: May 2028

GPA: 3.28/4.0 | Concentration: Embedded Systems and Computer Architecture

Relevant Coursework Highlights:

- High-Performance Courses (Grade A): Design & Analysis of Operating Systems (CSCI 3753), Embedded Software Engineering (ECEN 2370), Digital Logic (ECEN 2350), Circuits as Systems (ECEN 2260).
- Additional: Applications of Embedded Systems (B+), Introductory Circuits & Electronics (B+).

SELECT TECHNICAL PROJECTS

Embedded Tetris on STM32 Microcontroller (Bare-Metal Programming) | 2024

- Developed a fully functional Tetris game using an **STM32** board with a touch screen, demonstrating expertise in bare-metal embedded programming.
- Bypassed an operating system by directly manipulating internal registers (GPIO and timers) to manage I/O, output, rendering, and touch-input handling.

RainbowFPGA | Verilog-to-WS2812B Interface (Digital Logic & HDL) | 2024

- Implemented a pure **FPGA-only (Verilog)** solution to interface with a WS2812B LED strip, eliminating the need for a microcontroller.
- Designed a high-precision clock divider and state machine to accurately transmit frame buffer data over the custom WS2812B protocol.

MathCrowPad | Custom Numberpad with Screen and Scrollers (Full Stack Hardware/Firmware) | 2023

- Designed and fabricated a fully custom PCB (using **KiCAD**) for a specialized number pad targeting math, chemistry, and spreadsheet applications.
- Integrated multi-functionality via a custom screen, scroller wheels, and extra keys for enhanced user workflow.

PROFESSIONAL EXPERIENCE

DLA Research Assistant (Synbiohub.org Team) | CU Boulder Genetic Logic Lab | Boulder, CO

2024 – Present

- Refined and deployed containerization strategies using **Docker** to streamline the DevOps pipeline for the Synbiohub web frontend.
- Improved the front-end design and user experience, resulting in increased compliance with internal standards.

Computer Recycling Lead | Boulder Valley Waldorf School | Niwot, CO

2021 – 2024

- **Increased processing throughput by 50%** (to 3 computers per man hour) by developing and standardizing processes for computer preparation.
- Managed secure data erasure, product photography, and operating system imaging for donated technology, ensuring compliance and quality control.

Assembly Technician (Responsible for Model 866) | Boulder Amplifiers | Louisville, CO

2020 – 2021

- Managed the final assembly and information flow for the flagship 866 Integrated model, ensuring high-fidelity audio equipment production.
- Identified and corrected assembly and material quality errors based on test feedback, coordinating with manufacturing to prevent component shortages and downstream defects.

CERTIFICATES

- ECAD - Level 2: Schematic Capture & PCB Layout using Altium Designer