Nicholas Wroblewski

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Education

University of Colorado Boulder **May 2022**
B.S., Electrical & Computer Engineering GPA: 3.60

Relevant coursework:

- Computer Organization
- PCB Design and Manufacture
- FPGA & VLSI Design
- Microelectronics
- Digital Logic
- Electronics Design Lab
- Operating Systems
- Embedded Software Engineering
- Programming Digital Systems

Relevant Projects

RISC-V Processor | Computer Organization **November 2021**

- Architected a five-stage 32-bit RISC-V processor simulator with forwarding, branching, memory, and ALU operations
- Validated processor functions using an Eclipse debugger and custom RISC-V assembly test code

Arduino Uno Sensor Shield | PCB Design and Manufacture **November 2021**

- Designed a four-layer Arduino Uno sensor shield in Altium with various sensors and supporting hardware
- Completed hand-soldering of parts using a hot air station, preheater, and other PCB assembly techniques
- Employed proper design practices to ensure reliable signals, stable rails, and low crosstalk

Proof of Concept | Capstone **November 2021**

- Aided design and assembly of a custom proof of concept PCB to verify the feasibility of a hand-assembled BGA part
- Confirmed PCB functionality by flashing a Zephyr RTOS to the BGA module along with a BLE Python test script

VGA Controller | FPGA & VLSI Design **March 2021**

- Designed a VGA controller in Verilog on the DE10-Standard FPGA according to standard VGA signal timings
- Validated resolution switching, ROM access, and picture display using a monitor and a testbench in ModelSim

Experience

Western Digital | Test Engineer Intern **May 2021 – August 2021**

- Wrote Python scripts to perform automated drive failure analysis and virtual machine upkeep
- Collaborated with both team members and other teams to evaluate and improve SSD performance
- Performed NVMe SSD firmware validation using a custom suite of testing methods

Office of Information Technology | Student Computer Support Technician **October 2018 – May 2022**

Team Lead **May 2021 – May 2022**

- Improved department effectiveness through daily employee & client management
- Conducted new employee interviewing, training, and competency testing to maintain customer service standards

Technician **October 2018 – May 2021**

- Provided walk-in support for faculty, staff, and students on PC, Mac, and mobile platforms at CU Boulder
- Troubleshot requests including virus remediation, email setup, driver installation, software installation, OS install & recovery, internet troubleshooting, and basic data recovery

Skills

Programming Languages: C/C++, Verilog, Python, MATLAB, CSS, *HTML*
Equipment: Oscilloscope, Multimeter, Waveform Generator, DC Supply
Operating Systems: Windows, Linux, macOS, Zephyr