Nicholas Wroblewski

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Education

University of Colorado Boulder   May 2022
B.S., Electrical & Computer Engineering   GPA: 3.59
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

Insect Robot | Senior Design   **September 2021 – May 2022**
- Collaborated with the Animal Inspired Movement Robotics Lab to create an insect-like, palm-sized, solar harvesting robot
- Coded a UART finite state machine onto the Bitcraze AI Deck and a Python interface for image collection and remote control of the Zephyr RTOS
- Aided design and assembly of a custom PCB with a u-blox NORA B106, motor drivers, and solar harvesting circuit

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

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