Education

* **B.S. Computer Engineering Dec 2021**

University of Utah GPA 3.83/4.00

Lawrence D. Schroder Endowed Scholar (most outstanding junior in class, awarded by the engineering department)

Relevant Coursework:

* Software

Machine Learning (in progress), Computer Systems, Software Practice I & II, Object-Oriented Programming, Data Structures

* Hardware

CAD of Digital Circuits (in progress), Embedded Systems (in progress), Computer Design Lab, Digital System Design, Computer Organization

Experience

* **Software Consultant**

LightWorks Metrology, Salt Lake City, UT

Jan 2020 - Present

TCP Networking, Graphical User Interfaces, File I/O systems, MATLAB, C++, GitHub, robust I/O, laser metrology via interferometers and motion controllers

* **Electrical Engineer Intern**

Colmek, Murray, UT

Jan 2020 – Aug 2020

Trained on oscilloscopes, multimeters, frequency counters, and waveform generators, analysis and debugging of firmware and PCBAs, wrote technical documents

* **Research Assistant**

University of Utah Clinical Neuroscience Center

Salt Lake City, UT

May 2019 – Jan 2020

MATLAB and Arduino C programs for clinical use, infrared & barometric sensors, Graphical User Interfaces, Adobe Illustrator, presentations

Skills

* **Programming**

C/C++, MATLAB, Java, Python, C#, SQL

Hardware Description: Verilog and VHDL

* **Practices and Technologies**

Threading, Networking, Object-Oriented, Test-Driven Development, HTTP, Linux, GitHub, Signals and Processes

Projects

* **Pac-Man**

*Coursework Project* | *Collaborative Fall 2020*

* Developed RISC 16-bit CPU on FPGA in Verilog
* Created a custom assembler in Python
* Programmed the game in assembly
* VGA, and XBOX controller peripheral support
* **RISC-V Security Hardening**

*Senior Clinic Project* | *Collaborative – Sandia National Labs Sep 2020 - present*

* Analyzing, debugging, and security hardening open-source RISC-V processor built in VHDL
* Developing test programs in C and Python
* Characterizing/predicting faulty behavior
* **Laser Metrology Library**

*Work Project* | *Independent Jan 2020 – Sep 2020*

* Develop MATLAB and C++ programs for computation and create a 3D coordinate system
* Utilize JSON files for I/O between programs
* Control physical devices with networking and serial communication
* **Tank-Wars Game**

*Coursework Project* | *Partner Oct 2019 – Dec 2019*

* Develop a client-server game in C#
* TCP networking, JSON formatted data, and backup game statistics using SQL and a database
* **Concurrent Webserver**

*Coursework Project* | *Independent Nov 2020*

* Develop a TCP webserver in C supporting HTTP requests and utilize threading for concurrency