

BAILEY SAUTER

(541) 579-5506 ♦ sauterb@oregonstate.edu

EDUCATION

Oregon State University

September 2018 - June 2022

Electrical Engineering and Computer Science Double Major

3.95 GPA

Relevant Coursework: · Algorithms · Data Structures · Operating Systems · C/C++ · Digital Logic Design · Microcontroller System Design · Computer Architecture · Intro to AI · Linear Algebra

WORK EXPERIENCE

Software Engineering Intern

May 2021 - August 2021

Tektronix

- Designed and developed an app in [C++](#) for oscilloscope hardware emulation intended for use internally and by millions of customers.
- Wrote [Python scripts](#) for performance benchmarking and used results to make recommendations regarding future products to upper-level management.
- Learned and implemented principles of test-driven development and [Agile](#).

Research Assistant

June 2020 - Present

Oregon State Energy Systems Research Lab

- Designed, simulated, built and debugged high-efficiency, high-power DC-DC and DC-AC converters with applications in renewable energy. Included designing and analyzing PCB schematics and board layouts.
- Researched and implemented maximum power point tracking [algorithms](#) to increase efficiency of solar panels.
- Responsible for maintaining relationships with suppliers and purchasing tens of thousands of dollars of lab equipment.

Head Undergraduate Teaching Assistant

December 2018 - Present

Oregon State Department of Electrical Engineering and Computer Science

- Responsible for the hiring and scheduling of all undergraduate TAs for entry-level engineering course.
- Met with professors weekly to coordinate and improve the teaching of the course, the assignments, labs, and exams.
- As a TA, taught labs of 20+ multidisciplinary students every week, graded quizzes, tests, and lab reports, proctored exams and review sessions for 250+ students, and held 2-4 weekly office hours.

Special Project Assistant

June 2020 - September 2020

Oregon State Artificial Intelligence and Robotics Research Lab

- Collaborated on a research project training a computer vision model to identify psychological traits in videos.
- Annotated hundreds of videos and thousands of images to train [machine learning](#) model.
- Responsible for reviewing and improving other students' work.

SELECTED ENGINEERING PROJECTS

Solar Powered HVAC System - [Publication for ECCE Conference 2021](#)

- Researched, engineered, and built architectures for solar-powered HVAC systems.
- Coauthored the paper, "Control Architectures of Solar-Powered HVAC Systems: A DC-DC Converter's Perspective" which was accepted and published by the ECCE 2021 global energy conference.

Waveform Compression Algorithm - Senior Capstone Project with Tektronix

- Developed and optimized a [C++ algorithm](#) for compressing waveforms from remote oscilloscopes.
- Tasks included writing algorithm code, research on past existing compression algorithms, complexity analysis and waveform analysis of specific desired characteristics.

SCARA Drawing Arm - Junior Design Lab

- Designed and wrote all the [C firmware](#) for a three-axis robotic arm with SCARA topology.
- Arm was able to draw sound waves, demo programs and faces by interpreting G-codes.