

ADAM SPARKS

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EDUCATION

OREGON STATE UNIVERSITY

Bachelor of Science, Electrical and Computer Engineering

Expected June 2026

- Relevant Coursework: Antennas & Propagation, Analog & Digital Communications, Digital Comm & Channel Coding, Transmission Lines, Electric & Magnetic Fields, Guided Wave Optics, CMOS Integrated Circuits, Energy-Efficient VLSI

PROJECTS

UAV-Mounted VHF/UHF Cross-Band Radio Repeater – Capstone Entrepreneurial Project – In Progress

- Leading the design and integration of a drone-mounted VHF/UHF cross-band analog radio repeater for improved communications reliability in disaster response environments.
- Designing and assembling PCBs for interfacing with RF transceiver modules, using an embedded microcontroller.
- Researching antenna selection, placement, and integration, working with constraints from airframe geometry, payload size, and interference/coupling risk.
- Executing bench bring-up, debugging, and validation testing to assess performance and integration readiness.
- Multidisciplinary collaboration with teammates from mechanical and electrical engineering backgrounds.

EXPERIENCE

Oregon State University - Physics Department, Corvallis, Oregon

Spring 2024, Fall 2024, Winter 2025

Learning Assistant

- Assisted lectures of 200 students in understanding physics concepts, including kinematics, forces, energy and momentum, waves, optics, electricity and magnetism.
- Facilitated group discussions and guided problem-solving sessions.
- Collaborated with professors to enhance teaching strategies for introductory physics courses.

Aptive Environmental, Seattle, Washington

June 2024 – July 2024

Sales Representative

- Generated \$10K+ revenue in one month by communicating complex technical product features clearly to non-technical customers.
- Demonstrated resilience and adaptability in a high-pressure environment.

SKILLS

Hardware: PCB Design, soldering

RF Design: RF link budgets, impedance matching, S-parameters, antenna selection & integration

Simulation: KiCad, Keysight ADS, LTspice, MATLAB

Lab Equipment: Oscilloscopes, spectrum analyzers, VNAs, signal generators, bench power supply, SDR

Programming: Python, C++

INTERESTS: Disc Golf, Alpine Backpacking, Rock Climbing, Amateur Radio, Kendama