- Damian Amerman-Smith -

Senior Electrical & Computer Engineering (ECE) Student

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Portfolio: https://projects.engineering.oregonstate.edu/profile/?id=LOFA6ivY1uRIehNl

SKILLS

- Microcontroller programming with C/C++ and Assembly Languages
- Semiconductor Processing & Device Verification
- FPGA Logic Gate Prototyping using the SystemVerilog HDL
- VLSI Design & Simulation using Cadence Virtuoso
- Soldering & Circuit Assembly
- PCB Design using I^2C, SPI, & UART Communication Protocols

EDUCATION

BS in Electrical & Computer Engineering • GPA 3.75, 2022-2026, Oregon State University, Corvallis, OR
- Relevant Courses: Operating Systems, Power Electronics, Semiconductor Devices & Processing.

ENGINEERING PROJECTS

The *Macrocontroller*: Educational Computer Design • Oregon State University — Fall 2025 to Present
- Centered around an FPGA-based CPU implemented with SystemVerilog.
- I designed the memory & data storage block, including Flash memory, RAM, and SD files.
- Completed firmware development to interface between CPU, memory, and peripheral inputs to run basic video games (requiring some multiprocessing and extensive communication protocols).

MOS Capacitor and N-Channel MOSFET • Oregon State University — Winter 2026
- Using Aluminum-on-Silicon processing techniques to make a Metal-Oxide-Semiconductor capacitor and nMOS transistor.
- Testing devices to experimentally verify device performance based on design parameters.

4-bit ALU Design • Oregon State University — Fall 2025
- Designed and verified using hierarchical transistor-level CMOS design in Cadence Virtuoso.
- Validated functionality through subcircuit & system level simulations.
- Created a DRC/LVS-clean Full Adder layout for planar 0.18 μm CMOS.

***WaveLite*: Portable Oscilloscope** • Oregon State University — Winter 2025
- Designed firmware & graphical interface to plot real-time oscilloscope signals.
- Implemented waveform measurements (i.e. amplitude, mean), periodically adjusting measurements as data was received.
- Created a triggering mechanism to capture transient signals (i.e. RC charging/discharging).

PROFESSIONAL EXPERIENCE

Oregon State University, Port Orford, OR • Research Assistant — Summer 2021
- Assisted in the collection of zooplankton to analyze the feeding habits of grey whales.
- Used kayaks to collect zooplankton samples and surveying tools to track whale activity.

Crazy Norwegian's Fish & Chips, Port Orford, OR • Line Cook — Spring 2021 to Summer 2023
- Cooked fried & grilled food to order during high school and summers.