- D a m i a n A m e r m a n - S m i t h -

Senior Electrical & Computer Engineering (ECE) Student

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

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SKILLS

- ► FPGA Logic Gate Prototyping using the SystemVerilog HDL
- ► VLSI Design & Simulation using Cadence Virtuoso
- ► Semiconductor Processing & Device Verification
- ► Microcontroller programming with C/C++ and Assembly Languages
- ► Soldering & Circuit Assembly
- ► PCB Design using I²C, SPI, & UART Communication Protocols

EDUCATION

BS in Electrical & Computer Engineering • GPA 3.75, 2022-2026, Oregon State University, Corvallis, OR
- ► Relevant Courses: Digital VLSI Design, 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.
- ► Designed the memory & data storage block, including program memory, RAM, and long-term file storage.
- ► Current work is on firmware development to interface between CPU, memory, and peripheral inputs.

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.