

# Spencer Moss

Portland, Oregon Area

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## EDUCATION

**Oregon State University**, Corvallis, Oregon, USA

- Bachelor of Science in Electrical and Computer Engineering Sep 2015 – Jun 2019
  - Minor: Computer Science GPA: 3.85
  - Interest Areas: Embedded Systems, Computer Architecture, VLSI, FPGAs, Open Source, and Digital Design

## WORK EXPERIENCE

**Maxim Integrated**, Dallas, Texas, USA

- Test Engineering Intern Jun 2018 – Sep 2018
  - Created build pipeline to schedule/automate running firmware level tests and collect+report on test coverage data, extending an existing DejaGNU based framework.
  - Wrote and executed test plans for post-silicon validation/verification of processor and peripheral functionality through firmware and bench-top tools (logic analyzer, oscilloscope).
  - Ported parts of the gcov open source coverage testing tool to work on embedded ARM processors without an underlying OS.

**Digital Control Systems, Inc.**, Portland, Oregon, USA

- Engineering Intern Jun 2017 – Sep 2017
  - Implemented driver/library and test code in C for PIC18F family microcontrollers to operate with SSD1351 OLED driver/controller IC for embedded products.
  - Tested, characterized, and reviewed OLED and TFT screens for use in a custom product.

**Digital Control Systems, Inc.**, Portland, Oregon, USA

- Engineering Intern Jun 2016 – Sep 2016
  - Built driver level embedded software in C connecting a Bosch Sensortec BMP280 pressure/temperature sensor to a PIC18 family microcontroller over I<sup>2</sup>C.
  - Upgraded from old Protel EDA software to KiCad in an effort to reduce costs and move forward with EDA technology.
  - Developed a custom web application using Python for data collection and presentation of sensor data collected from various embedded systems in an Internet of Things control systems project.

**Oregon State University Open Source Lab**, Corvallis, Oregon, USA

- Student Systems Engineer Nov 2015 – Jun 2017
  - Administrator of a large variety of GNU/Linux systems for OSS projects, with a focus on cloud-level virtualization on alternative architectures.
  - Work with project managers to meet customer needs and demands, using many different technologies to maintain/administer systems including CentOS GNU/Linux, Nagios, Chef, RT, Cfengine, OpenStack, KVM/QEMU, and more.

## PROJECTS

**Bluetooth Controlled AC Switch**, Junior Design

- General system design for a wirelessly controllable two channel AC switch that reports energy/power usage of connected devices. Each channel can be controlled using timers or simply on/off.
- Designed a custom designed PCB featuring ACS723 current sensing ICs, Maxim MAX7221 display driver, and ATmega328p for control.

**Nintendo 64 controller driver**, Digital Logic Design

- Implemented a driver/controller module in a Lattice Semiconductor MACH FPGA using SystemVerilog, adapting a Nintendo 64 controller to interface with older NES and SNES game consoles.
- Lead designer of Nintendo 64 related system blocks, created test plans/verification suite for all HDL using ModelSim and TCL.

## AWARDS & SCHOLARSHIPS

**Alexander Memorial Scholarship**, OSU School of EECS

- Awarded a scholarship for outstanding performance in the top 40% of the department of EECS at Oregon State University.

**Honor Roll**, Oregon State University (All Terms)

## PROFESSIONAL AFFILIATIONS & ACTIVITIES

Member of the **Eta Kappa Nu**, **Tau Beta Pi**, and **Phi Kappa Phi** Honor Societies

President of the **Eta Kappa Nu** Honor Society, Pi Chapter

## TECHNOLOGIES & SKILLS

GNU/Linux, Open Source, C, Embedded Systems, AVR, Git, Computer Architecture, ARM Assembly Programming (AVR, ARM), Software Testing, Debugging (GDB), Python, Logic Design, FPGAs (Lattice Diamond), SystemVerilog, Verification/Simulation (ModelSim, SPICE), L<sup>A</sup>T<sub>E</sub>X, Technical Writing