

BEN NOLLAN

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<http://bennollan.com/>

OBJECTIVE

To have a challenging internship learning new things and working on exciting projects.

CORE STRENGTHS

Skills	C/C++, Bare Metal Programming, Verilog, PCB Design, Troubleshooting
Tools	Visual Studio, μ Vision, OpenSCAD, Eagle, LaTeX, Vivado, Clonezilla
Protocols	I ² C, UART, SPI, VGA, DVI, TCP, UDP

PROJECTS

Project Daltonismo - An HDMI Color Filter

Wrote the code for an FPGA that decodes, modifies, and encodes the color data from an HDMI signal and applies color filters. These filters help people who suffer from colorblindness more easily differentiate between on-screen colors.

Wheel-E - A Self Balancing Robot

Created an inverted pendulum robot that self-balances on two wheels. It uses an accelerometer and gyrometer to accurately measure the angle that the robot is currently tilting. Designed and built a custom motor controller to drive the motors as well as laid out a PCB for all of the components.

Chip-8 - A Hardware Implementation

Designed a Chip-8 CPU on an FPGA, it is an old, emulated platform originally designed for playing video games. Implemented all of the opcodes and used VGA for the video output.

Bench Power Supply

Modified a computer power supply to give me variable power for my projects, it has constant current and constant voltage adjustments and can supply up to 240Watts.

High Power Flashlight

Made a flashlight that has a 100Watt led with dimming and temperature speed controlled fan. Originally it was using analog components for the creation of the PWM signals but that was later replaced with an Arduino to implement extra features, such as, strobe mode.

EXPERIENCE

S&C Electric Company, Duvall, Washington

May 2017 - Present

Software Engineer Intern

- Rebuilt and updated simulation software for the power grid.

Teacher's Assistant, Redmond, Washington

September 2016 - Present

Embedded Microcontroller Systems

- Helped plan practical assignments and grade assignments.

Iron County School District, Cedar City, Utah

August 2012 - June 2014

Computer Repair Technician

- Repaired hardware on MacBooks, iMacs, Chromebooks, Dell desktops, and Laser Printers.

Southwest Applied Technology College, Cedar City, Utah

January 2012 - June 2014

Information Technology Assistant

- Maintained, assembled, and upgraded servers and desktops.
- Provided desktop support.

EDUCATION

DigiPen Institute of Technology, Redmond, Washington

Expected Spring 2018

Dean's list four of my six completed semesters

Overall GPA: 3.58

ABET, EAC Accredited Program

BS Computer Engineering, Senior Undergraduate