

Paul Ugolini

paul@ugolini.xyz 330-503-9473 github.com/woo2

Rochester Institute of Technology – Rochester, New York

B.S. Computer Engineering, Graduating December 2019

Computer Science House – Member – csh.rit.edu

Experience

NVIDIA – System Software Intern [Tegra CPU Software – MTS] *Jan – Aug 2018*

- Added efficient translations of ARM instructions for Denver & Carmel dynamic code optimization.
- Maintained firmware, kernel, and userspace code to assist in chip bring-up & automated testing.
- Assisted in the design of a tool to correlate Linux kernel performance to CPU events.
- Investigated long IPI (interrupt) latency, leading to a large speedup in handler execution time.

NVIDIA – Software Engineering Intern [Linux Graphics Drivers] *Jun – Aug 2017*

- Refactored global data structures in EGL to meet specified behavior.
- Improved a C++ library to enable easier testing of the Vulkan graphics API.

Thimble.io – Engineering Intern [Embedded Systems and Hardware Design] *Jun – Dec 2016*

- Designed 2 DIY kits to be delivered to customers. Created PCB, BOM, and starter code.
- Wrote drivers for sensors and AVR peripherals. Chose parts to fit within budget.
- Worked with ESP8266, I2C / SPI sensors, motor control, battery charging, RTCs, and LED displays.

STEM Summer Camp – Founder *May 2014 – Present*

- Started the only summer STEM program for middle school students in the Youngstown, OH area.
- Wrote curriculum from scratch for two levels and trained non-technical adult staff.
- Built automated game field and scoring system for advanced students.

Projects

Quadcopters – 2 hobby-grade quadcopters with remote video, autopilot, and modified firmware.

The Ugolino – A custom Arduino clone featuring two co-processors and shared SRAM.

BladeWriter – Use a software defined radio to show text in the scrolling heat map of an FFT viewer.

BIOS Mod – Worked with a partner to enable installation of Linux on a Lenovo Yoga 900 laptop.

Skills & Technologies

C / Python / ARM Assembly

Linux Userspace + Kernel

PCB Layout

Embedded Systems

ARM v8 ISA / CPU Architecture

VHDL / Digital Design