

Noah Luskey

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WORK EXPERIENCE

- MARCH 2017 - Now | **Microsoft** | Redmond, Washington
Applied Sciences Group Firmware Developer
Architected and implemented continuous build, test, and deployment system for embedded firmware - transforming team culture regarding testing, maintainability, and peer review of firmware. Architected recoverable two-stage SPI flash and eMMC bootloader. Implemented two-stage secure bootloader for five-processor device. Other contributions include 60 FPS five megapixel MJPEG encoder, various I²C and SPI drivers, RGB LED animator, various software and hardware bug investigations, and PC/Linux tooling.
- Cosmos Storage** Software Developer
Designed and implemented automated canary analysis system for *Extent Node* distributed service. Created *documentation as code* platform for service trouble shooting and guides. Various *on call* duties for the data layer of an exabyte scale system. Researched and implemented stream repair scenarios for several forms of permanent data loss.
- MAY 2016 - AUGUST 2016 | Cosmos Storage Software Developer Intern at **Microsoft** | Redmond, Washington
Integrated optional distributed caching system into read path of Microsoft's *Cosmos* big data platform. Solved several build integration issues related to adding distributed cache to legacy code and build system. Improved random read data rate of cached data by minimum of 2x.
- MAY 2015 - AUGUST 2015 | System Software Developer Intern at **Sonos** | Boston, Massachusetts
Created software suite to automate testing of orientation, button presses, hardware monitoring, and event queue. Investigated hardware to improve testing of system interrupts (such as buttons and faults). Discovered and corrected bugs in Sonos eventing drivers and problems with tracing facilities (ftrace & OProfile). Developed proof of concept application and method to allow iOS devices to join *SonosNet*.
- JANUARY 2015 - MAY 2015 | Part Time Embedded Networking Contractor at **Soneter** | Atlanta, Georgia
Designed and implemented proof of concept port of Soneter networking hardware to Texas Instruments CC3100 platform and TIRTOS. Automated testing of security concerns on previous Soneter networking hardware.
- MAY 2014 - AUGUST 2014 | Digital Applications Engineering Intern at **Texas Instruments** | Dallas, Texas
Created Arduino compatible WiFi library (C++) for *Energia* (TI's fork of the Arduino environment) for CC3100 and CC3200 WiFi embedded systems. Created 16x16 WiFi LED display to stream low resolution UDP video stream for New York *Makerfaire*.

EDUCATION

- AUGUST 2011 - DECEMBER 2016 | B.S, M.S in Electrical Engineering at **Georgia Tech** | Atlanta, Georgia and Metz, France
Focus on Embedded Systems and Control Systems. Graduated with Highest Honors. Undergraduate GPA 3.89. Graduate GPA 3.50.

PERSONAL PROJECTS

- NOW | **ESP32** Ski Forecast Wall Art
Wall art installation of full size skis and LEDs as artistic representation of ski forecast. 184 individually addressable RGB LEDs on custom 3D printed mounts. Currently experimenting with OTA updates and using DMA to drive strips.
- FALL 2015 | PSoC 5LP **MIDI** Guitar
Team leader on senior design project. Wrote all embedded software for PSoC 5LP development board and designed sense circuits for *fret sensing* guitar neck. Unlike traditional MIDI guitars, guitar did not use DSP nor buttons on the neck. This allows low latency and extreme accuracy while still feeling like a *normal* electric guitar. Won best ECE project.
- SUMMER 2012 | **Raspberry Pi** Full Color *Word Clock*
Laser cut a wood enclosure for an array of 121 RGB LEDs and integrated with a Raspberry Pi over SPI to display current time, stock information, and weather forecasts. Programmed using Python 2.7.

SKILLS & INTERESTS

- Programming:** *Current:* C, C++, MATLAB, Basic Make, Basic Bash
Past: C#, Python, Powershell, Java, Basic Rust, Basic Swift, Basic VHDL
- Software:** Azure DevOps, LabVIEW, MATLAB, Adobe Illustrator, Adobe Photoshop, Adobe Flash, Quartus, SketchUp, Mathematica, LT Spice, Multisim Xcode, Code Composer Studio, Microchip MPLAB, WireShark, OpenOCD, GCC, GDB, Perforce, Git, PSoC Creator, Visual Studio, \LaTeX , Bash
- Lab Equipment:** Oscilloscope, digital logic analyzer, function generator, soldering equipment, filament 3d printers, laser cutters
- Electronics:** Intel/Movidius Myriad X, ESP32, Cypress PSoC 5LP, TI CC3200, TI MSP430, Raspberry Pi, PIC24, TI C2000, Arduino
- Professional Interests:** Public speaking, embedded systems, data analysis, control & feedback systems, signal processing, user experience, web design, graphic design, continuous integration, audio design, industrial design
- Personal Interests:** Pinball, kinetic sculptures, jazz bass guitar, rock climbing, algorithmic trading, skiing, golf