

# NOAH LUSKEY

Software & Firmware Engineer



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## WHO AM I?

I build stuff. Mostly low-level software, though lately *many hats*.

I've been told one of my main talents is identifying gaps and rallying people around a fix.

At Microsoft, some of the gaps I filled were continuous build/test systems, cross-platform-ifying existing code, or even just revamping documentation.

However, I wanted stronger ownership, so almost two years ago I quit Microsoft to build WasteWizer with two other engineers and one scrap-industry titan.

## WASTEWIZER?

We build hyper-weight scales for the waste industry. *BinBar* is an on-site IoT device to help scheduling and pickup logistics.

As the company's first developer, I've designed the full software system and developed the vast majority of it.

We've built a hardware+software system that our customers rely on. We've ingested over 1MM weights and monitored hundreds of container cycles for dozens of customers.

*Stop Waiting for Weight.*

## EXPERIENCE

4/2021 - Now

### Lead Software/Firmware Engineer

WasteWizer Technologies - Atlanta, GA & Remote

- Employee #4 at a startup building internet-connected hyper-weight scales for dumpsters (up to 22 tons).
  - Designed and implemented the full system to ingest sensor data from scales and aggregate on a dashboard.
  - Built fault-tolerant application firmware, as well as build/calibration firmware. 2-month average battery life.
  - Designed and built data pipeline to process raw data into calibrated force and weight data.
  - Built insights such as detection of site dropoffs, pickups, and automated *service-needed* notifications.
  - Also... ended up essentially being our IT, marketing, and graphic design department (by necessity).
- C++17 / React / Typescript / MongoDB / Python

10/2018 - 4/2021

### Software/Firmware Engineer II

Microsoft - Applied Sciences Group - Seattle, WA

- Designed and implemented continuous build/test system for suite of edge-AI devices.
  - Design and implementation of telemetry and update system for edge-AI devices.
  - Designed and implemented cross platform *modern* C++17 USB library leveraging WinUSB & libusb.
  - Rewrite of build system, converting to cross platform CMake (including firmware & host applications).
  - Architect and release manager of firmware and host tooling for manufacturing, validation & calibration.
  - Ultimately, this product was released as the *Surface Hub 2 Smart Camera*.
- C++17 / C / Myriad X / Make / CMake / Linux / USB

3/2017 - 10/2018

### Software Developer

Microsoft - Cosmos Big Data Group - Seattle, WA

- Designed and implemented automated canary analysis system for *Extent Node* distributed service.
  - Created and deployed *documentation as code* platform for service trouble shooting and guides.
  - Various *on call* duties for the data storage layer of an exabyte-scale system.
  - Researched and implemented stream repair scenarios for several forms of permanent data loss.
- C++11 / C# / C / Powershell

2016

summer internship

### Software Developer Intern

Microsoft - Cosmos Big Data Group - Seattle, WA

- Integrated optional distributed caching system into read path of *Cosmos* big data platform.
  - Improved random read data rate of cached data by minimum of 2x.
- C++11

2015

summer internship

### System Software Developer Intern

Sonos - Boston, MA

- Created software suite to automate testing orientation, button presses, and hardware monitoring.
  - Created proof of concept iOS application to allow iOS to join SonosNet.
- Linux Kernel 2.6 / C / Python

2014

summer internship

### Digital Applications Engineering Intern

Texas Instruments - Dallas, TX

- Created Arduino compatible open source WiFi library (C++) for *Energia* for TI CC3100 and CC3200.
  - Created 16x16 WiFi LED display to stream low resolution UDP video stream for New York *Makerfaire*.
- Wiring (Simplified C++) / C / CC3100 / CC3200

## EDUCATION

2011 - 2016

### B.S., M.S. in Electrical Engineering

Georgia Institute of Technology - Atlanta, GA and Metz, France

Focus on Embedded Systems, Signal Processing, and Control Systems. Graduated with Highest Honors.

## (SOME) PERSONAL PROJECTS

2019

### Snow Forecast Ski Art

Backlit wall-art skis that display abstract rendition of weekend's snow and weather forecast. ESP32.

2015

### FretMaster 5000

MIDI guitar using fret-string contact to accurately/immediately detect chords. PSoC 5LP.

2013

### Full-Color WordClock

Artistic clock that illuminates a full sentence from a grid of letters to show the current time. MSP430. RPi.

## HOBBIES

Skiing, rock-climbing, tennis, and a healthy obsession with pinball. Bass guitar & piano.

## MORE

Have questions? Want to bounce around ideas? I'm always happy to talk - I love chatting about anything I have done! I can tell you much more than my resume can.