

# TIMOTHY LECHMAN

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## Experience

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### Delve

Mar 2021 – Present

*Senior Embedded Software Engineer*

*Hybrid – Philadelphia, PA*

- Lead development of embedded software for various consumer, medical, and industrial products
- Collaborated with clients from ideation and proof of concepts through to production support
- Developed documentation describing requirements, architecture, design, and verification testing
- Mentored interns and staff engineers on projects and with development of internal articles
- Championed an internal library initiative to centralize common code to prioritize reuse and continuously improve code quality

### Nittany Acoustics

Mar 2020 – Mar 2021

*Firmware Engineer*

*Remote – Philadelphia, PA*

- Lead firmware developer of small form-factor noise dosimeter products for defense and medical contracts including a device to be located entirely inside the ear
- Developed DSP filter chain for noise dosimetry using Mathworks DSP Systems Toolbox
- Performed board bring up, hardware rework, and debugging in home lab

### Bresslergroup

Sep 2017 – Mar 2019

*Junior Electrical Engineer*

*On-site – Philadelphia, PA*

- Collaborated with a multidisciplinary team to develop consumer and medical products for clients
- Developed hardware and firmware for various consumer and medical devices

## Projects

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### Atherectomy Device | *Embedded C, PIC33, Baremetal, BLDC,*

Delve

- Developed an atherectomy device under 62304 design controls
- Designed a custom brushless DC control scheme using sensored, field-oriented control
- Collaborated with the client to produce a state machine that provides a safe and comfortable user experience

### Industrial Air Quality Monitor | *Embedded C, ATSAMC21, FreeRTOS,*

Delve

- Redesigned an industrial air quality monitoring system to replace an existing legacy system
- Ensured compatibility with existing client systems while modernizing and upgrading the product
- Architected a custom bootloader and firmware update process over RS485
- Interfaced with over 20 different I2C and SPI devices to interact with various sensors and controls

### Fitness Bands | *Embedded C, NRF52840, Zephyr, BLE,*

Delve

- Developed a consumer fitness watch and a complimentary medical fitness watch with an enhanced feature set
- Maximized high throughput BLE streaming capabilities for PPG sensor data
- Collaborated in a distributed firmware team on a multiprocessor design

## Education

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### Drexel University

2015 – 2020

*Bachelor of Science in Electrical Engineering*

*Philadelphia, PA*

## Technical Skills

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**Languages:** C/C++, Python, Matlab, C#

**Developer Tools:** Git, CMake, Clang, GCC, CI/CD, Docker, Atlassian Products, Doxygen, IAR, SVN

**Embedded:** FreeRTOS, Zephyr, FOC, PID, DSP, I2C, SPI, UART, RS-485, BLE, WiFi, STM32, Nordic

**Lab Equipment:** Multimeter, Oscilloscope, Signal generator, Logic analyzer, SMD/THT soldering, Hot-air rework