

Julie McEldoon

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(973) 349-8502

Brooklyn, New York

Creative embedded systems engineer with experience in medical device product development.

Skills and Platforms

C/C++, Fusion 360, Python, KiCAD, Eagle, Altium, OrCAD, Cadence, FreeRTOS, Nordic nRF, Atmel AVR, STM32

Experience

Embedded Systems Engineer, 10XBeta

August 2021 – Current

- Led embedded product development and coordinated with cross disciplinary groups to create multiple early stage medical devices such as a wearable ECG and PPG ring, a powered wheelchair device with a modular control system, and a light therapy mask
- Developed over 20 PCBAs, including system architecture, assembly, schematic and PCB layout in Altium
- Developed firmware in C/C++ for nRF52 microcontrollers, including sensor drivers, GUIs, and full system integration
- Spearheaded company standards for the Embedded Systems team by creating SOPs for project conventions and design review processes
- Communicated and managed clients to relay project progress and technical challenges

Associate Electrical Engineer, L3Harris

July 2020 – August 2021

- Created schematic designs for FPGA based systems in Cadence while creating and maintaining key design documentation
- Designed and analyzed simulations using ADS to determine the signal integrity of hardware designs, allowing the company to safely determine which designs were viable
- Built additional tooling for the internal ECAD component librarians to quickly determine which components were in the company's Cadence library to increase efficiency in part location and circuit design

R&D Co-op, Johnson & Johnson Consumer Inc.

January – July 2018

- Followed corporate design control process to develop Arduino firmware and designed an electrical schematic in OrCAD for a consumer research prototype
- Presented technical design process and project results to cross-company team members, including V.P. of group via PowerPoint and poster session

Personal Projects

A Matter of Air

Co-created art piece displayed at DxD and NYCxDesign exhibitions. Created Python scripts that parsed through NYC air quality data and created formatted sections of Arduino firmware. Developed firmware for displaying the data on an array of 42 LED strings.

Portable Liquid Pump

Designed PCB in KiCAD with simple motor control, buck-boost, boost, battery management, and a distance sensor. Developed STM32 based firmware which included sensor driver development and user defined liquid output control. Modeled enclosure in Fusion 360.

Education

B.E. in Electrical Engineering, Stevens Institute of Technology

May 2020