Paul Musgrave
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Experience

Software Engineer, (under contract to) Structurx LLC, Cincinnati, OH (Remote)
April 2019 – August 2019

- Designed 3D CAD software in C#/.NET to facilitate the design of new structural engineering projects
- Automated the workflow of engineering tasks, dramatically reducing time spent on designs
- Implemented form validation module with regular expressions, eliminating user form input errors

Electronics Design Engineer, Samson Technologies Corp, Hicksville, NY
Oct. 2012 – Nov. 2018

- Designed a variety of professional audio products, with an average of 7 new products per year
- Coordinated with manufacturing facilities throughout product lifecycle
- Wrote firmware in C for real-time 24-bit USB audio devices on ARM core microcontrollers
- Developed DSP software in Analog Devices SigmaStudio for high power loudspeakers to improve sound quality, protect loudspeakers, and reduce component failures
- Designed cross-platform editor software in C++ and Qt to allow customization of USB MIDI keyboard controllers and increases product interoperability with recording software

Electrical Engineering Co-op, L-3 Communications FOS, Cincinnati, OH
Sep. 2010 – Sep. 2011

- Created schematics, PCB layouts and other documentation including wiring diagrams, user instruction manuals, 2D line drawings, and 3D models
- Wrote LabVIEW code to interface with electronic test equipment
- Modified frontend user interface of production line test software

Electrical Engineering Co-op, Cincinnati Bell Telephone, Cincinnati, OH
Jan. 2009 – Mar. 2010

- Modified server configuration to enable roaming field testing of cell phones
- Deployed networking equipment in the department's data center
- Recorded and maintained inventory of available telecommunications equipment

Education

University of Cincinnati, Cincinnati, OH.
Bachelor's, Electrical Engineering, Graduated June 2012
Minor, Mathematics
GPA: 3.30

Skills Summary

- Circuit design: amplifiers, mixers, filters, ADC / DAC, USB devices, Bluetooth
- Prototyping, SPICE simulation, PCB layout with KiCAD, PADS, Altium
- Embedded software: STM32, Cypress PSoC, Atmel AVR, PIC, some experience with Altera FPGA
- Standard peripheral protocols such as UART, I2C, SPI, I2S, etc.
- Languages: C, C++, C#, Javascript, HTML, CSS, some experience with Verilog, Python, Rust
- Software tools: Linux / Bash, Git and Github, GDB, RTOS , Catch2, Node.js, Qt, SQL, MongoDB

References available upon request