Morris Embedded LLC

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Overview

I am a system level embedded designer. I can take your project from concept, to prototype, to production-ready or any step in-between.

Strengths and Interests

- Microcontroller systems, programming and surrounding circuitry.
- Software that interfaces directly with hardware devices.
- Hardware design that will be interfaced with a microcontroller, FPGA or other ASICs.
- PCB design and layout.
- BLE – in particular, utilizing Nordic Semiconductor's nRF51 and nRF52 microcontrollers.

Programs and Languages

- C, C++, C#
- Verilog
- Python, Perl
- ARM Assembly Language
- Arduino, Raspberry Pi
- Xilinx ISE
- Visual Studio
- Altium Schematic/Layout
- Eagle CAD Schematic/Layout
- Linux/Windows

Education

Masters of Engineering - Portland State University - Dec 2012

- Electrical & Computer Engineering

Bachelor of Science - Portland State University - June 2010

- Computer Engineering

Professional Experience

Lead Electrical Engineer, Pacific Diabetes Technologies, May 2013-Present

- Defined electrical system for low current sensor and BLE communications
- Defined custom BLE protocol: characteristics and services needed by sensor.
- Wrote firmware for Nordic nRF52 utilizing BLE softdevice, ADC, SPI, & GPIOs. (C)
- PCB schematic and layout – multi-layer, uBGA components, micro & blind vias
- Solder assemble and troubleshoot boards, fine pitch components, 0201 passives
- Wrote sensor monitoring software to receive data from BLE to display & log. (C#)
- Collaborated with mechanical engineering team to define electro-mechanical interfaces.
- Gained experience with quality and regulatory requirements required of medical devices while assisting building the quality system and writing quality documentation.

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Professional Experience Continued

Electrical Engineer I/II, ESI, June 2011-Feb 2013

- Defined electrical system and interconnections for a new product.
- Circuit design, schematic capture and layout of PCBs.
- Cable specification and documentation.
- USB Driver update to Win7 compatibility.
- Embedded C programming.
- Worked with safety and compliance.

Electrical Engineering Intern, ESI, May 2010-June 2011

- Wrote C# Testbench application for an LED test product.
- Schematic capture and layout of several small PCBs.

Technical Marketing Intern, Volt: Mentor Graphics Corp., June 2009-Dec 2009

- Wrote eqDRC rule checks for example library.
- Automated performance characterization process from test generation to data collection and summarization.

Computer Engineering Intern, Intel Corp. – VTG, July 2008-Jan 2009

- Wrote device interfacing GUI in Python.
- Layout of small connector board in Cadence.
- Initial board testing in lab.
- Verilog logic design for USB timings of data transfer between host and device.

Research Assistant, Portland State University - Signal Processing Lab, Jan 2008-June 2008

- Worked with team to design a motion sensor device.
- Created small form factor case for device in SolidWorks.
- Participated in collaborative physical motion signal processing meetings.
- Worked on motion disorder research study at Oregon Health & Science University.

References

Available on request.