Jason Bens

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Biography

I am a hardware engineer who loves the fast pace and constant change of product design. I like learning new technologies and applying them in novel ways. I have experience in all stages of the product design pipeline, including hardware design, design validation, regulatory/safety compliance including EMC, and contract manufacturer management.

Skill Summary

Competencies

Schematic Capture	PCB Design/Layout	Analog/Digital Design	Electromagnetic Compliance
System Integration	Circuit Simulation	Prototyping and Test	Signal Integrity Validation
High Speed Design	High Density Design	Root Cause Analysis	Contract Manuf. Management

Tools

Allegro/OrCAD	Altium	LTSpice/NgSpice	NI LabView
C	Python	MATLAB	ARM Assembly

Experience

Electrical Engineer — Seattle, Washington
Pensar Development — *August 2015 - September 2018*

- Designed several USB 2.0 and USB 3.0 hub boards for a medical ultrasound device with emphasis on specialized galvanic isolation for patient safety.
- Spearheaded the EMC effort to reduce the device's RF emissions from 30 dB above the IEC-60601-1 limit to 15 dB below the limit using both electrical and mechanical modifications.
- Working with the firmware team, instrumented the USB hub board and created an automated manufacturing test suite for it in NI LabView.
- Coordinated with local fabrication labs and larger contract manufacturers to prototype the device and bring it into production.
- Performed signal integrity measurements on high speed lines (DDR, USB 3.0, low MHz sine wave) and designed mitigations to reduce the effects of nearby RF coupling.

Electrical Engineer — Mukilteo, Washington
Electroimpact — *September 2014 - August 2015*

- Designed a sensor system to monitor the safety brakes on a carbon fiber placement gantry used in construction of the Boeing 747.
- Integrated a positional control system with sensors for realtime control of a mobile gantry for carbon fiber placement.
- Supervised the installation of automated assembly jigs for aircraft wing assembly lines.
- Designed 24V, 120V, 208V, and 480V AC and DC power distribution systems.

Research Intern — Keihanna Science City, Kyoto, Japan
Advanced Telecommunications Research Institute International — *July 2012 - August 2013*

- Applied stacked denoising autoencoders to generate hypothetical functional MRI (fMRI) activations.
- Developed stimulus routines to collect data on behavioural tasks from human test subjects.
- Analyzed fMRI, MEG, EEG, and anatomical MRI data to locate and visualize neural activations measured during experiments.

Education

Bachelor of Engineering in Electrical Engineering — University of Victoria
GPA: 7.58/9.00 — *Graduated 2014*

- Specializations in Computational Intelligence and Electromagnetics & Photonics

Diploma in Electronics Engineering Technology — Southern Alberta Institute of Technology
GPA: 3.82/4.00 with Honours — *Graduated 2011*