

Biography

I'm a consumer/medical hardware engineer who loves the and fast pace and constant change of product design. I like learning new technologies and applying them in unusual ways. My favourite projects are those that take me from initial conception through to production release.

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 2.0/3.0 hub boards for a medical ultrasound device, working with local fab labs and larger CMs to bring it to production.
- 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.
- 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

- Engaged in all phases of the product lifecycle management of aircraft assembly automation equipment for leading aerospace manufacturers such as Boeing.
- Acted as a key point of contact during on-site functional testing and support.

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

Projects

Medical Ultrasound Device

- Designed USB 3.0 and USB 2.0 hub boards, emphasizing signal integrity due to electrically noisy environment.
- Exhaustively investigated cause of EMC failures, culminating in several modifications and the addition of an inline power filter.
- Instrumented hub boards for automated testing with Labview/Ni Teststand.

Automated Fiber Placement Machine

- Developed sensor system for monitoring safety brakes along multiple axes of motion.
- Interfaced CNC with various devices for realtime monitoring and control of mobile gantry for carbon fiber placement.
- Designed 24V, 120V, 208V, and 480V AC and DC power distribution systems.