Bradley L. Davis

Electronics Engineer

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Relevant Experience

Engineer @ Schweitzer Engineering Laboratories

Associate HW Engineer | April 2021 - Present | LAN Group

- Became the resident expert on SFF optical transceivers whilst producing a comprehensive automated testing suite against IEEE standards.
- Co-spearheaded group to introduce Ansys for signal and power integrity simulations mitigating costly PCB revisions.
  - Simulated PCB concurrently with layout to establish tight feedback loops between PCB designers and HW engineers.
  - Continue to meet weekly with engineers from across all R&D groups to teach each other about Ansys tools and simulation methodologies.
- Assist advancement of Operational Technology Software Defined Networking (OT-SDN) rugged network switches.
  - Cooperated in a small responsibility center to start-up OT-SDN products for use in industrial, utility, and military applications.
- Quickly created custom product configurations, including requisite compliance testing, to win large customer orders.
- Mitigate supply chain disruptions by sourcing and qualifying drop-in replacements and/or performing in-depth design changes.
- Diagnose, aggregate, and analyze root cause failures to elicit design alterations and manufacturing process improvements

Internship | May 2018 - April 2021 | Automation Group

- Led experimental project of high surge withstanding Gigabit Ethernet interface including presenting findings to management to discuss commercial adoption.
- Aided development for an Intel based rugged industrial computer with a projected MTBF of over 300 years.
- Performed UL, IEC, & IEEE regulatory type testing including surge, EFTB, radiated immunity, thermal cycling, & dielectric strength.
- Developed a Gigabit Ethernet reliability and throughput testing software.
- Fabricated a testing tool that identifies manufacturing defects saving money and life.
- Utilized oscilloscopes, digital multimeters, and Ethernet sniffers to functionally test hardware.
- Qualified alternate parts that meet or exceed electrical and regulatory equivalence.
- Participated in a team of 4 with an agile methodology.

CTO @ Cougs in Space - *WSU Satellite Club*

Club | August 2017 - December 2021 | Pullman, WA

- Advised and managed all projects related to the satellite's development.
- Created circuit design, laid out traces, and functionally tested 8 unique PCBs with predominantly surface-mount technology.
- Constructed a Low Earth Orbit communication system with software defined radios.
- Wrote software for embedded microcontrollers.
- Prototyped mechanical solutions predominantly for communication systems.

Skills & Libraries

Expert

Ansys SIwave/EDT	Autodesk EAGLE
Python	Autodesk Inventor
Regex	Microsoft Excel
Micro Soldering	Microsoft Word

Excellent

Simulations	Autodesk 3ds Max
LTSpice	NumPy & Cython
Digital Design	C/C++
Analog Design	Java
3D Design	GIMP

Skilled

Git	CNC Machines
MATLAB	Graphic Design
HTML/CSS/JS	JIRA
Sheet Metal Design	Statistical Analysis

Familiar

VISA	CMake
WSL	OpenGL
RF Design	Simulink
Verilog & VHDL	CI/CD

Education

Washington State University

Fall 2017 - Fall 2021

Voiland College of Engineering and Architecture, Honors College

Bachelor of Science in Electrical Engineering

Minors in Math and Physics

GPA: 3.74, Magna Cum Laude

President's Honor Roll Fall 2017 - Fall 2021

WSU Capstone Project - *Collab*

Data acquisition system with pipelined FFT designed in Simulink for an FPGA.

Built for PNNL's Project 8 to determine the mass of a neutrino using a cyclotron and phased antenna array.

Personal Projects

bradleydavis.tech

Spring 2019

First published website serving my resume, portfolio, and life experiences.

Built with HTML, CSS, and JS

hardware-tools

Summer 2021

HW test equipment automation and eye diagram construction/measurement.

Built with Python, NumPy, and Cython