

AAKRITI BARAT

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PROFESSIONAL SUMMARY

Versatile Electrical Engineer specializing in electro-mechanical design and production - comfortable creating complete devices and retrofitting legacy systems. Experienced in managing electrical product lifecycle from design phase to delivery and implementation. Polished in requirements development, documentation, troubleshooting and developing solutions.

WORK EXPERIENCE

Ohio University

Research & Teaching Assistant

August 2021 – Present

- Coordinated with 7 research scholars to analyze and catalogue current state-of-the-art cybersecurity practices that **secured \$15000** for the department
- Developed and coached labs for 15 advanced graduate students for a practical course in **computer hardware security** with a 100% success rate
- Collaborated with 7 researchers to organize a three-day workshop for 25 teachers and students, that ran **Jupyter** based exercises on Raspberry Pi and Hardware Hacking platforms
- **Awarded** Dr. Harold F. Klock Endowed Scholarship for outstanding performance

Vertiv

Sr Electrical Hardware Design Engineer

Dec 2017 – March 2020

- Engineered a customized Temperature and Humidity Control PCB **from requirements to prototype** for use in conjunction with one of the top selling products
- Advised a team of 10-20 team members in China and provided technical support per week
- Composed a “testing cookbook” with detailed testing instructions for global contract manufacturers, **expediting testing by 80%**
- Created standard QC reports documenting root-cause and current data issues in field returns.
- Worked with a **multi-disciplinary team of 10+**, to ideate, design, maintain and update components for assemblies
- Created requirements documents outside of job description with data analysis and peer reviews, to align with business needs
- Facilitated performance of **cross-functional** (product, engineering, sales) team towards the successful launch of server rack product

Thermo Fisher Scientific

Hardware Design Engineer

March 2017 – Dec 2017

- Managed **re-engineering of up to 15 legacy products** and consistently reviewed records to ensure data is current and accurate
- Reviewed and evaluated up to 50 change notices (**ECNs**) per week and made the decision to either pass them to the **Agile database manager** or send back to peers for further revisions
- Redesigned over 300 schematics, assembly and fabrication drawings for new projects that went into production.

- Proactively communicated and maintained relationships with up to **20 different vendors** resulting in higher profit margins in every quarter
 - **Youngest employer** to be promoted within 2 months due to strong performance and organizational impact
 - Refined component inventory to optimize their integration into higher level **sub-assemblies** of radiation measurement instruments
 - Accomplished **40 % increased productivity** of manufacturing processes by test system documentation using Agile Product Lifecycle Management.
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EDUCATION

PhD in Electrical Engineering and Computer Science

May 2024

Ohio University

Research Focus: Hardware based Cybersecurity

MS in Electrical and Computer Engineering

Jan 2017

The Ohio State University

Thesis: "Analysis and Design of Phase Locked Loops with Insight into Wavelet Analysis"

SKILLS AND PROFICIENCIES

- Microcontrollers, Electrical Schematics, Assembly & Fabrication specifications, MS Excel, Mentor Graphics, Soldering and testing, Prototype fabrication, optimize manufacturing processes, engineering and product design, PCB fabrication
- Python, C, Tableau Public