Joel Abraham

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EDUCATION

Drexel University, College of Engineering
   Bachelor of Science in Computer Engineering
   Bachelor of Science in Electrical Engineering

SKILLS

- Technical: Cadence, Synopsys, SPICE, C, MATLAB, VHDL, Verilog, Assembly, Wireshark, Rockwell Automation (Studio 5000, FactoryTalk), SOLIDWORKS, ModelSim, Simulink
- Certifications: Construction OSHA 10, General Industry OSHA 10, Fundamentals of Industrial Networking

EXPERIENCE

Physical Design Engineer — Low-Power RISC-V ALU Using Efficient Charge Recovery Logic
Drexel University   Sept 2025 - Present
- Designed transistor-level Efficient Charge Recovery Logic (ECRL) circuits in Cadence Virtuoso, implementing adiabatic switching techniques to reduce dynamic power consumption.
- Simulated and verified circuit functionality using Cadence Spectre, evaluating switching behavior and signal integrity.
- Performed power and timing analysis using Synopsys tools, comparing ECRL performance against CMOS.

Control Systems Engineer   Sept 2024 - Apr 2025
Thermo Systems LLC   Fort Washington, PA
- Led and implemented 30+ control system projects across various stages of development, serving as engineer, product manager, designer, and budget analyst.
- Managed acceptance testing for newly built and installed control panels, ensuring full functionality and reducing testing time by 33% while maintaining quality standards.
- Designed, updated, and implemented HMI applications and SCADA systems for new and existing operations, collaborating with operators to capture system requirements.
- Maintained documentation and provided risk assessments for new business proposals, while tracking and updating financial records to stay within project budgets.

Network Engineer   Sept 2022 - Apr 2023
Naval Sea Systems Command   Philadelphia, PA
- Implemented, installed, and tested network upgrades for active U.S. naval ships, including LSD, LHD, LHA, CVN, and CVL classes.
- Configured switches, VLANs, and ports, and verified new network connections aboard vessels and in laboratory environments.
- Utilized Wireshark, traffic generators, and Spanning Tree Protocol (STP) to evaluate network performance for load, latency, throughput, routing, and packet loss.

LEADERSHIP

Intramural Volleyball Captain   Apr 2023 - Present
Community Service Director of Society of Asian Scientists and Engineers June 2022 - June 2023