

PROFESSIONAL SUMMARY

Electromechanical Engineer specializing in high-voltage power electronics, embedded systems, and RF hardware, with experience delivering flight-ready and automotive-grade systems from concept through validation. Targeting spacecraft hardware and communications systems roles.

WORK EXPERIENCE

Future Technologies Laboratory, Inc.

Havertown, PA (Remote)

Electrical Design Engineer

September 2024 - Present

- Led full-cycle design of custom electronic, DSP, and power systems, meeting client requirements from concept through production under tight schedule and environmental constraints
- Created network-enabled industrial interfaces for existing client systems in harsh environments
- Wrote bare-metal and high-level microcontroller firmware for IoT-enabled consumer devices

Peterbilt Motors Company

Denton, TX

Electrical Warranty – Engineering Intern

May 2023 – August 2023

- Redesigned a legacy electromechanical control system under strict harness and component constraints, developing a relay-based drop-in retrofit that eliminated premature high-current switch failures and resolved PACCAR's top global warranty issue for 2022–2023
- Identified patterns in warranty return data to proactively address future warranty claims
- Assisted in development of six-sigma QFD-based product decision matrix

Nexteer Automotive

Saginaw, MI

Electrical Product Engineering Student Co-op

April 2022 – August 2024

- Created new signal-analysis protocols to diagnose and validate current and next-generation PCB assemblies, improving fault detection and test coverage
- Performed comparative cost and function analysis on electrical components
- Used SPICE-based software to model, simulate, and improve modular circuit blocks
- Performed Monte-Carlo and Worst-Case simulation on existing and new hardware schematics

PROJECTS

Deployable UHF RF Frontend for Smallsat Applications

January – April 2025

- Designed, tested, and validated a LoRa-based bidirectional communication system for 1U and 3U CubeSats
- Constructed a custom, spring-loaded, fiberglass Quad-monopole antenna backed by SX1276 transceiver
- Integrated a fully passive hybrid coupler network, facilitating innate circular polarization for TX and RX

Uranian Moon Smallsat NASA JPL Proposal

January 2025 – Present

- Developed mission concept under JPL mentorship to augment Uranian Orbiter and Probe science return
- Authored and decomposed top-level requirements aligned with Decadal Survey priorities into critical requirements and system drivers, driving selection of a deployable impactor probe architecture

Formula SAE Electric Powertrain Prototype Development

September 2023 – May 2024

- Designed and validated a 600 VDC, 80 kW battery-powertrain system, meeting competition performance targets under strict safety and packaging limits
- Created novel nickel bus bar integrated fuse design and assembly process, protecting all individual battery cells within powertrain via fusible link failsafe
- Secured over \$18k USD of supplemental funding and in-kind contributions during tenure as team captain by independently sourcing and landing new educational, corporate, and local sponsors

EDUCATION

University of Michigan

May 2026

M.Eng. in Space Engineering, GPA 4.0/4.0

Ann Arbor, MI

Saginaw Valley State University

May 2024

B.S. Electrical and Computer Engineering, Minor in Mechanical Engineering, GPA 3.5/4.0

Saginaw, MI

SKILLS: Multilayer PCB (Altium), C/C++, SPI/I2C/CAN, LTSpice, MATLAB, 3D CAD, EMI/EMC, RF Design