

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 satellite 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

Expected May 2026

M.Eng. in Space Engineering, GPA 3.97/4.0

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