Liam Boyle

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EDUCATION

B.S. in Electrical Engineering (GPA: 3.73), *Virginia Tech* – Blacksburg, VA — Graduating 05/2025

- Major: Micro/Nanosystems
- Minor: Computer Science
- Relevant Courses:
  - Analog IC Design
  - Principles of Electronics Packaging
  - VLSI Circuit Design
  - Data Structures and Algorithms

EXPERIENCE

Hardware Engineering Intern, *Parker Hannifin* – Hauppauge, NY — 05/2024 – 08/2024

- Designed an integrate-and-hold capacitance reader circuit with high simulated accuracy to improve fuel probe efficiency, reduce heavy wiring, and improve fuel economy.
- Evaluated alternate components by collaborating with manufacturers and conducting obsolescence reviews on schematics for resistors, transistors, and digital and analog ICs.
- Developed technical documentation and system flowcharts to support onboarding engineers in understanding and analyzing key parameters of a widely used aircraft fuel gauging system.
- Streamlined the part list creation process by developing a VBA code-based part database in Excel that automatically populates relevant information based on the part number.

Electrical Engineering Intern, *WSP USA* – New York, NY — 05/2023 – 08/2023; 12/2023 – 01/2024

- Coordinated with architects and engineers of multiple disciplines to provide solutions to building systems for the Port Authority Bus Terminal, Tiffany & Co., and other clients.
- Developed power, lighting, and fire alarm plans using Revit and AutoCAD and performed load calculations to provide power to different electrical systems while adhering to the NYC and National Electrical Code.
- Presented findings and solutions to the team and outlined key project achievements and outcomes.

Avionics Member, *Orbital Launch Vehicle Team at Virginia Tech* – Blacksburg, VA — 09/2022 – 12/2023

- Collected and analyzed flight data to configure multiple flight computers that successfully fired in a 3000 foot launch.
- Gained soldering and hands-on experience from working with and troubleshooting different components.

TECHNICAL SKILLS

Software: LTspice, Cadence Virtuoso, Fusion 360 (EAGLE), MATLAB, Ansys EDT, Verilog, C, C++, Java, Python, AutoCAD, Microsoft Office

Hardware: Circuit design and testing, PCB design, FPGAs, oscilloscopes, spectrum analyzers, embedded systems (MSP432 LaunchPad)

PROJECT EXPERIENCE (Portfolio: liamboyle4.github.io)

Submarine Legacy Communication Component Upgrade, *Virginia Tech Major Design Experience* — 08/2024 – 05/2025

- Utilized compact CPLDs to implement a cost-effective, procurable solution for emulating obsolete transmitter and receiver ICs in an inspection submarine used by an international leader in nuclear energy. The Altera MAX II CPLDs were mounted on custom PCBs to ensure strong signal integrity, compatibility with the original chips, and adjustability for the customer.
- Coordinated with the customer, team mentor, and a subject matter expert to meet biweekly milestones.

Home Audio System, *Virginia Tech* — 08/2023 – 12/2023

- Built and integrated a three-band graphic equalizer, class D amplifier, and spectrogram based on an Arduino and a real-time FFT algorithm.
- Achieved 87% power efficiency and an undistorted output from the class D amplifier.

AWARDS AND HONORS

Dean's List, *Virginia Tech* — All semesters

IEEE-HKN Honor Society Member, Virginia Tech — 10/2023 – Present