

# David Gabriel

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## Work Experience

### AXCELIS TECHNOLOGIES · Beverly, MA

*Test Engineering Co-op*

July – December 2023

- Developed a 2-layer printed circuit board (PCB) and C++ software that simulates and tests the connection to 40+ high voltage power supplies used in the ion implanters, preventing stoppages or test gaps due to supply chain shortages.
- Constructed several test assets and test fixture sub-systems – including power distribution cables, control boxes, pneumatic boxes, and panel mounts – to improve quality or increase manufacturing capacity at both local and international factories.
- Utilized Creo Parametric to design housings, adapters, clips, and other parts that were then spliced using Prusa Slicer and 3D printed on a Prusa MK3s for low-cost, high-impact solutions on the manufacturing floor.
- Created and revised schematics, wire run lists (WRLs), bills of materials (BOMs), and test procedures to ensure proper documentation of all projects, promoting reproducibility.

### AMETEK - SPECTRO SCIENTIFIC · Chelmsford, MA

*Electrical Engineering Co-op*

July – December 2022

- Independently debugged numerous PCBs using digital multimeters, oscilloscopes, and power supplies, then reworked them by replacing components or re-routing traces using fine gauge wire.
- Provided electrical engineering support for the engineering and manufacturing teams by assembling PCBs, programming PCBs, testing PCBs, constructing hundreds of cables, troubleshooting issues, or providing information and documentation.
- Collaborated with the engineering team to prototype a weight-sensing system for their current project.
- Wrote programming and testing work instructions, created over 35 cable drawings, and updated PCB documentation to facilitate the outsourcing of work, increasing manufacturing capabilities.
- Managed documentation revisions by initiating PCOs and ECOs using Omnify.
- Found over 40 electronic part replacements to enable development during shortages.

### YOUNG ENTREPRENEURS ACROSS AMERICA · Beverly, MA

*Branch Manager*

February – August 2021

- Managed an exterior house painting business that produced \$140,000 in revenue, the 5<sup>th</sup> highest in the nation, and won the Excellence in Quality Award.
- Hired and led 8 employees, performed marketing, gave over 150 estimates, and worked with over 35 homeowners.

## Education

### NORTHEASTERN UNIVERSITY · Boston, MA

*Master of Science in Electrical and Computer Engineering* · GPA 4.00

June 2025

*Bachelor of Science in Electrical Engineering · Minor in Mathematics* · GPA 3.95

May 2024

Activities: IEEE, Marine Robotics, Tau Beta Pi Engineering Honors Society, Husky Environmental Action Team, Northeastern University Dance Company

## Skills

Hardware:	Circuit design, PCB design, through hole soldering, SMD soldering, fine wire rework, oscilloscopes, digital multimeters, power supplies, function generators, VNAs, Arduino, Raspberry Pi, ESP32, PYNQ FPGA, FDM 3D printing, basic machining (hand tools, drill press, miter saw, band saw, mill, lathe)
Programming:	ROS, Bash, System Verilog, RISC-V Assembly, MATLAB, C++, C, Python, Java, JavaScript, HTML/CSS, BASIC, AppleScript, Swift
Software:	Altium Designer, KiCAD, Spice, Cadence Virtuoso, Xilinx Vivado, Xilinx Vitis, Quartus Prime, AutoCAD, Fusion 360, SOLIDWORKS, Creo Parametric, Prusa Slicer, Octoprint, Windchill, Omnify, Git, Atom, Visual Studio, Jupiter Notebooks, Linux OS, MAC OS, Windows OS, Microsoft Suite, Google Suite