DAVID GABRIEL

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Education

NORTHEASTERN UNIVERSITY · Boston, MA   May 2024

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

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

Work Experience

AXCELIS TECHNOLOGIES · Beverly, MA

Test Engineering Co-op   July – December 2023

- Developed a printed circuit board (PCB) and C++ software that can simulate and test the connection to any of the 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 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, 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

- Collaborated with the engineering team to prototype a weight sensing system for their current project.
- 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, updating parameters in the module software, or finding information and documentation.
- 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 5th 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.

Skills

Hardware:	Circuit design, through hole soldering, SMD soldering, fine wire rework, oscilloscopes, digital multimeters, power supplies, function generators, VNAs, Arduino, Raspberry Pi, FDM 3D printing, basic machining (hand tools, drill press, miter saw, band saw, mill, lathe)
Programming:	System Verilog, Assembly, MATLAB, C++, Python, Java, JavaScript, HTML/CSS, C, BASIC, AppleScript, Swift
Software:	Altium Designer, KiCAD, Spice, Xilinx Vivado, Quartus Prime, AutoCAD, Fusion 360, SOLIDWORKS, Creo Parametric, Prusa Slicer, Octoprint, Windchill, Ominfy, Linux OS, MAC OS, Windows OS, Microsoft Suite

Projects

PLANT ECOSYSTEM   January 2024 – Present

- Working with a group of students at Northeastern to develop an open-source, modular house plant monitoring network.
- Designing PCBs, writing C++ software, and developing water resistant 3D printed housings for our modules.