RYAN WEBSTER

Danvers, MA • rwebster731@outlook.com • 978-880-2529 • LinkedIn

EDUCATION

Bachelor of Science, Mechanical Engineering | University of Massachusetts Lowell | GPA 3.41 Sept 2020- May 2025

EMPLOYMENT

R&D Technician (Contract) | ***FORMLABS****, Somerville MA* Nov 2025 - Present

- Building prototypes of next-generation 3D printers, reworking electronic components/sheet metal parts in the machine shop, and troubleshooting build issues with the manufacturing engineering team.

R&D Engineering Intern | ***SPRYTE MEDICAL****, Bedford MA* May 2024 - July 2025

- Simulated use-testing of catheter-based intraneural OCT imaging probes to troubleshoot the root causes of failure when deployed inside the brain, and compared multiple configurations to optimize image quality.
- Implemented automated camera vision systems into manufacturing line equipment, and programmed PLCs with physical feature detection tools to improve assembly accuracy and manufacturability.
- Updated and managed SolidWorks drawings for hardware documentation control, and wrote scripts using Windows PowerShell to automate large batches of revision changes for word files of SOP documentation.

Mechanical Engineering Co-Op | ***TERADYNE****, North Reading MA* Dec 2022 - July 2023

- Designed a pneumatic test fixture to evaluate the lifecycle of a molded component with a high defect rate. Tested for mechanical failure criteria of the brackets to validate FEA results for the new material selection.
- Developed and revised hardware components for implementation in field products, collaborated with team members to find solutions for time-sensitive projects, and presented findings through technical writing.
- Operated and maintained several FDM 3D printers to ensure smooth production of parts for rapid prototyping.

Machine Shop TA | ***UMASS LOWELL****, Lowell MA* Sept 2022 - Dec 2022

- Taught students how to operate manual mills, CNC mills, and CNC lathes to fabricate metal parts.

Plastics Engineering Research Assistant | ***UMASS LOWELL****, Lowell MA* May 2021 - Aug 2021

- Conducted research on plastic waste mitigation by utilizing FTIR Spectroscopy to analyze the absorption spectra of macroplastic beach litter samples, and identify the most frequently occurring polymers in ocean waste.

SELECTED PROJECT EXPERIENCE

Riverhawk Racing (FSAE), Aerodynamics Team Sept 2022 - May 2024

- Designed bodywork components for an open wheel race car to improve aerodynamic performance, and performed CFD simulations to find drag coefficient, downforce, and analyze flow paths of air.
- Manufactured body panels from woven composite fabric, using an epoxy resin wet layup on convex foam molds.

Capstone: Design, Build, Fly Sept 2024 - Dec 2024

- Designed the electronics rig for a remote-control airplane using the plane's physical characteristics to calculate the necessary electronic specs. Ensured the ESC, battery, motor, and propeller would generate sufficient thrust.

Applied Finite Element Analysis Jan 2025 – May 2025

- With multiple commercial FEA softwares, learned how to utilize techniques such as: plotting localized stress, plotting deformation, calculating failure criteria, mesh convergence, nodal analysis, and topology optimization to predict the mechanical behavior of static and dynamic structures under various loading conditions.

TECHNICAL SKILLS

DESIGN	SolidWorks / Ansys Mechanical / Abaqus / Altair Hypermesh / Ansys Fluent / KiCAD
EQUIPMENT	3D Printing (FDM, SLA, SLS) / Machining (Manual, CNC) / Epilog Laser / Instron / Keyence KV-X
SCRIPTING	MATLAB / Simulink / Powershell / Arduino