

Joel Ruben

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EDUCATION

Tufts University

BS in Mechanical Engineering

Medford, MA

Graduation Date: May 2025

- **Relevant Coursework:** Aerodynamics, Materials & Manufacturing, Thermal Fluid Systems, Electronics & Controls, Compressible Flows, Microelectromechanical Systems

Cumulative GPA: 3.57/4 | Dean's List | Magna Cum Laude

WORK EXPERIENCE

ZOLL Medical Corporation

Mechanical Engineering Intern

Chelmsford, MA

May 2024 - August 2024

- Designed and assembled mechanical test fixtures in SolidWorks to evaluate fatigue performance of medical components.
- Created and revised technical documentation, assembly drawings, and engineering test plans ensuring compliance with industry standards.
- Coordinated with cross-functional teams to validate product performance and improve reliability.
- Used rapid prototyping to support iterative mechanical testing and evaluation.

T3 Textiles

Logistics Intern

Bogota, Colombia

June 2022 - August 2022

- Supported facility upgrades and inventory optimization, improving overall delivery efficiency.
- Coordinated between engineering, logistics, and sales teams to resolve client-facing issues.
- Gained experience in project coordination and operational workflows across departments.

Automarket | Dollar

Technical Intern

Panama City, Panama

April 2021 - September 2021

- Collaborated in mechanical service operations, performing diagnostics and repairs on vehicles.
- Organized and optimized storage systems, reducing service time by 11%.
- Assisted in field service operations, including preventive maintenance and repair work.

RELEVANT PROJECTS

Tufts Formula SAE Electric Racing

Lead of Aerodynamics

May 2023 - May 2025

- Led a 10+ member sub-team in the design, testing, and fabrication of mechanical systems for a full-scale racecar.
- Developed CFD and FEA simulations to optimize performance, balancing downforce and drag.
- Oversaw composite manufacturing and assembly integration with chassis and cooling systems.
- Coordinated with other sub-teams (chassis, powertrain, electrical) to align project deliverables and

Tufts Robotics Club

Designer and Builder

September 2022 - December 2022

- Designed and assembled mechanical systems using machining, additive manufacturing, and assembly methods.
- Integrated Arduino-based electronics and control systems with mechanical actuation.
- Delivered a working prototype competing against 19 other teams.

MDA to Atmosphere

Designer and Builder

September 2019 - February 2020

- Built and designed an ammonium perchlorate composite powered rocket that reached around 500m in altitude.
- Performed physics-based calculations to determine thrust, stability, and aerodynamic performance.
- Sourced components, acquired materials, and managed project budgeting and expenses.

SKILLS

- **CAD & Simulation:** SolidWorks (CSWA Certified), Onshape, COMSOL CFD, ANSYS, FEA Analysis
- **Programming & Electronics:** C++, Python, Arduino, MATLAB, Raspberry Pi
- **Prototyping & Manufacturing:** Lathe, 3D Printing, Woodworking, Injection Molding, Sand Casting, PCBs
- **Other Tools:** Microsoft Office Suite & Google Workspace

INTERESTS

- Fluid Mechanics, Aerodynamics
- Product Design, Heat Transfer & Thermodynamics, Robotics, Consumer Electronics
- Automotive Enthusiast, Automobile Racing

LANGUAGES

- Fluent Level: English, Spanish
- Intermediate Level: Mandarin, Korean