

# Jack Hansen

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Boston, MA | San Francisco, CA

## Education:

**Northeastern University**, Boston, MA

Candidate for Bachelor of Science in Mechanical Engineering, May 2025

GPA: 3.729 | Honors: Dean's List

*Relevant Coursework:* Dynamics, Thermodynamics, Heat Transfer, Mechanics of Materials, Mat Sci

*Studies Abroad:* Sustainable Transport in the Netherlands, Fluid Mechanics in Panama, NUIN Dublin

*Activities:* Electric Racing, ASME, Jazz Ensemble, NUSound

## Projects:

**Northeastern Electric Racing**- 2020-2023

- Led a team of 15+ engineers, delegated tasks and scheduled work
- Designed aerodynamic bodywork for the race car
- Created CAM toolpaths and machined foam mold
- Created composite fiberglass layup to form the bodywork

**Whipper Trebuchet**- 2023

- Dynamically modeled and simulated physics to optimize design
- Produced precision drawings and machined parts, leading to the successful assembly of the product

**BrainTrainer**- 2021

- Designed and built a device to help Alzheimer's patients retain brain function
- Conducted research with user groups to influence design
- Created Arduino code and circuit diagrams for the device
- BrainTrainer was selected for the 2022 ASEE Conference

**Portfolio:** <https://jackhansen.carrd.co/>

## Work Experience:

**Boyd Corp**, Engineering Co-op

July-December 2023

- Developed and coded a custom application to perform automated data analysis, facilitating increased production efficiency and ensuring alignment with stringent customer standards
- Engineered and crafted precision fixtures, redesigning ineffective models and contributing to a significant overhaul of production processes
- Produced precise toleranced drawings for all fixtures, employing GD&T principles
- Collaborated seamlessly with manufacturing personnel to communicate design intentions
- Qualified unconventional manufacturing techniques and materials to reduce development time and manufacturing cost
- Diagnosed production faults and recommended effective solutions

**Hexcel/ARC Technologies**, Engineering Co-op

June-December 2022

- Formulated, tested and analyzed filled thermoset resins to meet customer specifications under tight deadlines
- Conducted programming and testing training on new production equipment in R&T department
- Programmed and implemented critical testing procedures onto production equipment for use in company-wide tensile testing
- Designed and fabricated durable testing fixtures for high-priority contract under tight deadline
- Aided in development of new production method for legacy product that resulted in a decrease in labor time and processes by 30%, improved product quality, and improved profits by 25%
- Actively engaged in safe workplace practices, monitoring safety practices of workers throughout the company and provided suggestions for safe work environment
- Conceptualized and performed testing and analysis to prove equivalency between existing and updated production testing equipment
- Provided progress updates at high-level engineering meetings

## Skills:

SolidWorks

GD&T

Autocad

C++, Python, Matlab

CAM + CNC Milling

Composite Layups

Lab Skills:

Mechanical Testing

Environmental Testing

Materials Formulation

Viscosity Testing

Adobe Suite

MS Office

Speak French