

# Joshua Lin

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## EDUCATION

### Northwestern University

*BS/MS in Mechanical Engineering, Concentration in Robotics*

**Expected Jun. 2028**

*Evanston, Illinois*

- **GPA:** 3.868/4.0; *Dean's List*

- **Courses:** System Statics & Dynamics, Mechanics of Materials, Thermodynamics, Engineering Statistics, Mechatronics, Fluid Mechanics, Electronics Design

- **Campus Leadership:** Medical Makers, NU Drumline *Social Media Manager*, Mechanical Keyboard Club *Event Coordinator*, Jazz Club *Exec Board*, NU Marching Band, Boomshaka Drum and Dance group

## PROJECTS

### HappiFeet: Underwater Treadmill for Penguin Rehabilitation - Shedd Aquarium

**Mar. 2025 - Jun. 2025**

- Led a team of 4 in a stakeholder-centered design project for Shedd Aquarium.
- Designed and manufactured an underwater treadmill prototype for penguin rehabilitation and therapy, creating CAD assemblies using Onshape and using CNC routers to create the treadmill tank and mills/lathes to create the treadmill system.
- Managed the project using RAM and GANTT charts to ensure timely and in-depth deliverables, including technical reports and formal design documentation.

### FlatTen: Modular Exhibit Display - Shorefront Legacy Center

**Jan. 2025 - Mar. 2025**

- Collaborated with Shorefront Legacy Center and a team of 4 to design a portable and aesthetic exhibit display system for African American history to communities in Chicago.
- Generated a bill of materials to address budget constraints and used mills, laser cutters, lathes, and 3D printers to manufacture a functional prototype for the clients.
- Prepared technical deliverables, including drawings for mechanical components, progress and design reports, and testing results for clients, communicating technical ideas to a non-technical audience.

## WORK EXPERIENCE

### Segal Design Institute Prototyping Shop

**May 2025 - Present**

*Shop Trainer*

*Evanston, IL*

- Leading the shop's weekly training for 60+ students on laser cutter, mill, lathe, band saw, etc.
- Advising students on design projects, practicing and gaining experience with various prototyping tools and manufacturing processes, and learning hands-on skills from machine shop professionals.
- Supervising and cleaning the shop to maintain a safe environment for students.

### HAND-ERC - Northwestern Haptics Lab

**Jan. 2025 – Present**

*Undergraduate Research Intern*

- Designing and 3D printing a modular, programmable haptic testing environment using Onshape and Python.
- Conducted over 8 weeks of experimental testing, collecting 100+ data samples and analyzing waveforms using MATLAB and Python data science toolboxes.
- Collaborating with Postdoctoral Fellows using waveform generators, piezo-electric transducers, and Python scripts to improve sensor calibration and integrate sensors into robotic hands.
- Awarded the Summer Undergraduate Research Grant, receiving \$4000 in funding.

## EXTRACURRICULAR ACTIVITIES

### NUStars: NASA Lunabotics Competition

**Sep. 2025 - Present**

*Manufacturing Engineer*

- Manufacturing rover parts for the NASA Lunabotics competition, using waterjets, mills, and shop tools to create a dirt collection system.

### Northwestern Robotics Club: Robotic Band

**Aug. 2024 – Present**

*Project Lead*

- Leading guitar-robot sub-project: use Finite Element Analysis, Onshape CAD, and product management tools such as BOMs and GANTT charts to lead a team of 3 developing a string plucking mechanism.
- Used Rapid Prototyping to create a robust and iterative torso mechanism for a robot drummer that performs in harsh environments.

## SKILLS

- **Technical Skills:** Solidworks, Onshape, Python, AutoCAD/FeatureCAM, Microsoft Office, MATLAB/Simulink, Mechatronics

- **Shop Skills:** Welding, Lathe, Mill, CNC Router, CNC Lathe, CNC Mill, Laser Cutter, 3D Printing, Waterjet, Sheet Metal

- **Professional Skills:** Event Organization, Team Organization, Leadership, Public Speaking, Research