

Joshua Lin

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EDUCATION

Northwestern University

Expected Jun. 2028

BS/MS in Mechanical Engineering, Concentration in Robotics

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