# Ryan Chung

617-460-4123 | ryanchung2027@u.northwestern.edu

## EDUCATION

**Northwestern University**, Evanston, Illinois
Bachelor of Science in Mechanical Engineering, Concentration in Robotics — Anticipated June 2027

- Cumulative GPA: 3.70/4.00
- Awards: Dean's List | Fall 2023, Winter and Spring 2024, Winter 2025
- Relevant Coursework: Machine Dynamics, Mechatronics, Thermodynamics, Mechanics of Materials, Fluid Mechanics

## SKILLS

**Computer:** SolidWorks, Fusion 360, AutoCAD, Revit, Ansys, MATLAB, C++, Python, Java, Google Docs, Google Slides, Google Sheets, Microsoft Word, Microsoft PowerPoint, Microsoft Excel, Bluebeam Revu
**Manufacturing:** Lathe, Mill, CNC Mill, CNC Water Jet, Laser Cutter, 3D Printer, Sheet Metal Shear and Bender, TIG Arc Welder, Vertical and Horizontal Bandsaw
**Language**: Fluent in Korean, Proficient in Latin

## PROJECTS

**Northwestern Formula Racing SAE**, Evanston, Illinois
***Lead Front Upright Designer*** — July 2025 – Current

- Redesigning front upright geometry to integrate hub motors and a planetary gearbox, enabling compact drivetrain packaging at the front corners.
- Utilizing Ansys FEA to validate design strength and further optimize the designs strength-to-weight ratio.
- Preparing part drawings and tolerances to coordinate manufacturing with external suppliers.

***Lead Motor & Differential Mounts Designer*** — September 2024 – June 2025

- Redesigned the motor and differential mounts to accommodate the relocation of drivetrain components, while ensuring the mounts are strong enough to also serve as rear impact protection for the car.
- Reduced the mass of the left mount by 27.7% and the right mount by 34.6%.
- Validated design strength through SolidWorks Static Studies, ensuring optimal durability and performance.
- Manufactured the mounts in house with a CNC Mill after using CAM through Fusion 360.

***Lead Frame Designer*** — July 2024 – June 2025

- Redesigned the car frame to meet updated FSAE regulations, incorporating changes to suspension geometry and the accumulator, while optimizing driver comfort and enhancing manufacturability.
- Validated torsional rigidity using Ansys Static Structural, maintaining a similar stiffness-to-weight ratio as the previous year's frame.
- Collaborated with stakeholders throughout the design process to refine the frame design and ensure compatibility.

**Northwestern Design, Thinking, and Communication**, Evanston, Illinois
***Product Design Engineer*** — March 2024 – June 2024

- Collaborated with a team of four to design and create a collapsible set of steps, helping wheelchair users transition from the floor to their wheelchairs, while ensuring seamless integration into home environments and ease of storage.
- Conducted research through client and hospital staff interviews to inform the design process.
- Developed multiple mockups based on interview insights, refining the final design through user testing and design reviews.

## WORK EXPERIENCE

**Bard, Rao + Athanas Consulting Engineers**, Boston, Massachusetts — June 2025 – August 2025
***Mechanical Engineering HVAC Intern***

- Redesigned HVAC systems in a 4,500 sq. ft. hospital lab wing to support the installation of high-load medical and lab equipment, ensuring ASHRAE compliance and maximizing efficiency.
- Developed detailed mechanical and HVAC construction documents in AutoCAD and Revit for client and contractor meetings, enabling faster approvals and reducing coordination issues.
- Conducted on-site field verification of existing HVAC layouts and as-built documentation to ensure accuracy for retrofit design, identifying discrepancies that prevented potential design conflicts.

**Segal Design and Prototyping Lab,** Evanston, Illinois
***Shop Trainer*** — September 2024 – Current

- Trained 100+ engineering students in the safe and efficient use of advanced manufacturing machinery, improving overall lab safety and competency.
- Led group training sessions of up to 10 students and provided one-on-one coaching, tailoring instruction to individual learning needs.
- Assisted students with design and manufacturing challenges, offering guidance to enhance project outcomes and technical understanding.