Taewon Yoon

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EDUCATION

Northwestern University **Evanston, IL**
B.S. in Manufacturing and Design Engineering *Anticipated June 2026*

- GPA: 3.83/4.00 | Honors: 22,23 Fall, 24 Winter, 24 Spring | High Honors: 23 Spring
- Tau Beta Pi member – Engineering Honor Society

WORK EXPERIENCE

Modular Puppet Theater **Evanston, IL**
Position: Co-lead *Client: Cook County Department of Corrections* *June 2024 – October 2024*

- Co-led group of seven to ideate and manufacture an unstructured and interactive puppet theater for children at Cook County Department of Corrections' visitor center as part of the 2024 Segal summer internship
- Made CAD mockup using Solidworks, rendering using Keyshot, and a full-scale prototype to present to stakeholders
- Established a four-week manufacturing plan and delegated tasks to members for efficient production of six unique modules each 28" tall, 10.5" wide, and 32" long that interlock with each other in multiple orientations

The 120 **Evanston, IL**
Position: Designer *January 2024 – March 2024*

- Hand-crafted a low-profile reclining chair with adjustable angles between 100–140° and interchangeable colors using ¾" plywood, upholstery foam, and fabric, without using metal screws and wood glue
- Designed and constructed and tested four full-scale prototypes for user testing using Solidworks and the CNC router
- Published a 182-page design process book using Adobe Illustrator, Photoshop, and InDesign

Cart in Basket **Evanston, IL**
Position: Manufacturing Lead *Client: Judy Geigner* *January 2023 – March 2023*

- Collaborated in a team of four to design and construct a specialized cart for patients with arthritis and Parkinson's disease, to move objects to different locations at different heights between 28" – 44"
- Led the prototype's manufacturing process, starting with initial hand-drawn sketches and selecting cost-effective yet durable materials such as PVC pipes to construct a functional prototype within a given budget of $150

ACTIVITIES AND LEADERSHIP EXPERIENCE

Northwestern Formula Racing Team **Evanston, IL**
Aerodynamics Team Bodyworks Sub-team Member *June 2024 – Present*

- 3D modeled the bodywork using Solidworks, running CFD tests to validate and optimize aerodynamic efficiency
- Collaborated cross-functionally with the chassis and suspension teams to optimize part designs
- Researched different types of carbon fiber manufacturing methods and decided to use pre-preg carbon fiber on MDF

Suspension Team Hubs Sub-team Member *June 2023 – June 2024*

- Redesigned the rear hub using Solidworks, achieving a 14% weight reduction while ensuring structural integrity
- Conducted finite element analysis for four driving situations to verify mechanical reliability of the project
- Developed a geometric dimensioning and tolerancing to send to an outsourced manufacturing partner
- Designed and manufactured two rear hub caps using Fusion 360 to generate G-code for CAM to operate CNC mill

Suspension Team Steering Sub-team Member *September 2022 – June 2023*

- Cooperated with two other students to design, optimize, and manufacture steering system for the 2022-23 vehicle
- Calculated optimum length of steering columns to satisfy suspension geometry and driving qualifications
- Removed torsional play in steering columns by welding the steering columns instead of using pins
- Improved pillow block design by reducing 33% weight while satisfying suspension geometry using Solidworks
- Manufactured jigs, steering columns, and pillow blocks using the manual lathe and mill with $\pm$.001 tolerance

Korean American Student Association **Evanston, IL**
Publicity Team Graphics Chair *June 2023 – Present*

- Led the Publicity team in the creation of visual content to promote Korean culture at Northwestern University
- Planned and managed a schedule for ideation, production, and promotion of marketing materials for club events
- Redesigned club logo using typography to represent the club's cultural identity in both English and Korean
- Designed and introduced mascots for the first time in club history to encourage member engagement using Adobe Illustrator, resulting in 18% year-on-year increase in new member recruitment

OTHER INFORMATION

Computer: Adobe Illustrator, Photoshop, InDesign, Matlab, Microsoft Office, Python, Slack, Solidworks, Fusion360, NX, Figma
Construction: Proficient in using CNC router/mill, manual lathe/mill, bandsaw, tablesaw, mitersaw, and laser cutter
Language: Fluent in English and Korean, professional working proficiency in Japanese
Military Service: ROK Army, Rank: Sergeant *September 2020 – March 2022*