

# CHARMAINE GUO

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## EDUCATION

**Northwestern University** June 2028  
B.S. in Materials Science & Engineering  
Overall GPA: 3.031

## EXPERIENCE

**Northwestern University** October 2024 - Present  
*Research Aide* Evanston, IL

- Collaborating with a graduate student on cellulose crystallization research, focusing on color formation without dyes.
- Studying how UV light cures acrylic acid, solidifying cellulose crystals and creating structural colors
- Analyzing using MATLAB how varying cellulose concentrations affect crystal arrangements and resulting colors.

**Northwestern University** Octor 2024 - Present  
*Swim Instructor* Evanston, IL

- Customizing instruction strategies based on knowledgeable evaluations of students' abilities.
- Maintaining participant progress by offering regular feedback and technique suggestions.
- Leading 5 swim classes per week for over 25 total participants.

**Weston Department of Public Works** June 2024 - August 2024  
*Engineer Intern* Weston, MA

- Analyzed and documented water pipe materials and diameters from hand-drawn maps; entering data into a new management system with a focus on GIS application.
- Studied and maintained the town's water distribution system, including public and private water lines and meters.
- Supported water treatment plant analysis and operations, gaining practical knowledge of water infrastructure.

## SKILLS

<b>Computer Languages</b>	Python, Java, MATLAB, HTML, CSS
<b>Soft Skills</b>	Project Management, Teamwork
<b>Labratory work</b>	Research Design, Lab Safety, Capillary Rheometer, Centrifuge, Speedmixer, ICP
<b>Organizational Tools</b>	Microsoft Excel, Google Drive

## EXTRACURRICULAR ACTIVITIES

**Northwestern Formula SAE (NUFSAE)** October 2024 – Present  
*Power Distribution Management*

- Working on the electrical systems team to design the back box harness and build the top hoop harness.
- Collaborating with the accumulator team to design the low voltage battery box.
- Learning and applying software like Altium, SolidWorks, and RapidHarness.
- Contributing to team milestones and ensuring technical goals align with deadlines.

**McCormick Student Advisory Board (MSAB)** October 2024 – Present  
*Project Development Team*

- Assisting in organizing departmental events to connect students with faculty and industry professionals.
- Providing input on academic initiatives and fostering a collaborative environment for Northwestern McCormick School of Engineering students.

**Tikkun Olam Makers (TOM)** October 2024 – Present

- Use engineering, design, and rapid prototyping skills to develop low-cost solutions to real-world challenges.
- Participate in hackathon-style events to build functional prototypes and present outcomes to stakeholders.

**Northwestern Water Polo Club** October 2024 – Present

- Participating in weekly practices and team tournaments to develop teamwork and athletic skills.
- Supporting recruitment efforts and organizing club activities to enhance team dynamics.