

# CHARMAINE GUO

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## EDUCATION

### Northwestern University

B.S. in Materials Science & Engineering

Overall GPA: 3.25/4.00

June 2028

## SKILLS

### Computer Languages

Python, Java, MATLAB, HTML, CSS

### Soft Skills

Project Management, Teamwork, Time-Management, Adaptable

### Hard Skills

Laboratory work, Research Design, Lab Safety, Capillary Rheometer, SEM, Spectrometer, ICP

### Organizational Tools

Microsoft Excel, Google Drive

## EXPERIENCE

### Undergraduate Researcher

Northwestern University

October 2024 - Present

Evanston, IL

- Collaborating with a PhD candidate 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.

### Engineer Intern

Weston Department of Public Works

June 2024 - August 2024

Weston, MA

- Transferred water pipe data from hand-drawn maps into a GIS-based system, improving online access and organization.
- Identified five roads with lead pipes, leading to successful excavation and replacement.
- Surveyed public and private water lines, supporting system maintenance.
- Assisted with water treatment operations, gaining hands-on infrastructure experience

### Architectural Intern

Maple Hill Architects

June 2022 - Feb 2023

Wayland, MA

- Created 3D models in SketchUp for active and future residential projects, enabling clients to better visualize architectural concepts and design plans.
- Contributed to interior design layouts and space planning, providing practical and aesthetic insights to ongoing projects.
- Modeled a full renovation plan for a residential property, including an energy-efficient greenhouse extension.

## EXTRACURRICULAR ACTIVITIES

### Power Distribution Management

Northwestern Formula SAE (NUFSAE)

October 2024 – Present

- 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.

### Finance Lead

Society of Asian Scientists and Engineers (SASE)

January 2025 – Present

- Organizing fundraisers and managing financial operations, budgeting, and expense tracking.
- Writing grants and collaborating with the club to ensure efficient financial planning and resource allocation.

### Project Development Team

McCormick Student Advisory Board (MSAB)

January 2025 – Present

- 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.