

CHARMAINE GUO

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EDUCATION

Northwestern University
B.S. in Materials Science & Engineering

June 2028
Overall GPA: 3.25/4.00

SKILLS

Computer Languages	Python, Java, MATLAB, HTML, CSS
Soft Skills	Project Management, Teamwork, Time-Management, Adaptability
Hard Skills	Lab Safety, Capillary Rheometer, SEM, Spectrometer, ICP
Organizational Tools	Microsoft Excel, Google Drive

EXPERIENCE

Undergraduate Researcher October 2024 - Present
Northwestern University Evanston, IL

- Collaborating with a PhD candidate on cellulose crystalline 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.

Swim Instructor October 2024 - Present
Northwestern University Evanston, IL

- Coordinating and scheduling private swim lessons to accommodate individual needs and availability.
- Maintaining participant progress by offering regular feedback and technique suggestions.
- Leading 8 group swim classes per week for over 30 participants.

Volunteer Online Instructor September 2023 - December 2023
gbSTEM Boston, MA

- Delivered exceptional engineering instruction via online platform.
- Taught course material to students using mixture of lectures, assignments and discussions.
- Offered students ample opportunities to observe, question and investigate.
- Followed applicable standards to plan course lessons, organize materials and test students.

PROJECTS

Purrfect Care Desktop (WildHacks)
Python, PyQt5, Gemini API March 2025

- Built a PyQt5 desktop app with wellness reminders, to-do list, and animated notifications.
- Integrated Gemini API for contextual chat with a virtual assistant cat.

Skynet System Team Project (Design Thinking & Communication)
Onshape, Arduino IDE, ESP32 Jan - March 2025

- Designed solutions for remote zoo access, with prototypes including an interactive online tour prototype built with web technologies and a Hexbug like design.
- Final deliverable: a zipline-mounted camera system enabling live video feed controlled remotely by users.

EXTRACURRICULAR ACTIVITIES

Finance Lead January 2025 – Present
Society of Asian Scientists and Engineers (SASE)

- 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.

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

- 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.