

Elaine Cui

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Education

Northwestern University

Expected June 2026

B.S. and M.S. in Computer Science

Evanston, IL

- **GPA: 3.94/4.00** | ACT: 35 | Dean's List
- **Relevant Coursework:** Data Structures, Algorithms, Operating Systems, Database Systems, ML/AI, Networking, OOP, Cloud Solutions, Graphics, CS Education, Functional Coding, Discrete Mathematics, Multivariable Calculus, Linear Algebra

Professional Experiences

Netflix

June 2025 - September 2025

Incoming Software Engineer Intern

Los Gatos, CA

- TV Client Foundations Team

The Garage Northwestern

September 2023 – Present

Full Stack Software Engineer

Evanston, IL

- Built dynamic website by leveraging **React**, **Next.js**, **TypeScript**, and **AWS** to centralize entrepreneurship workshops, alumni databases, and idea creation for **1,500+** startups, **1,000+** students, and alumni in Evanston, Chicago, and San Francisco.
- Conducted field study research on needs of participants through **30+** hours of surveys and primary research, consolidating into initial minimum viable product with focus on simplifying and engaging students with the startup program.

Northwestern University

September 2024 – Present

Computer Science Teaching Assistant and Student-Athletes Tutor

Evanston, IL

- Assisted **50+** students in Introduction to Graphical Programming (CS 351) by conducting **20+** office hours, collaborating with the professor to develop exam questions, and providing support through assignment, project, and exam assessments.
- Tailored study plans for **10+** student-athletes through individualized tutoring sessions in Linear Algebra (MATH 240), Single Variable Calculus (MATH 218), Computer Programming (CIS 110), and Fundamentals of Programming (CS 111).

Minnesota Government IT Services | Health Department

June 2024 – September 2024

Software Engineer Intern

Minneapolis, MN

- Automated immunization SMS messaging system with **AWS Pinpoint**, **Python**, and **JSON** for 200+ campaigns and 100,000+ Minnesotans to keep citizens up to date with recurring healthcare information and updates, condensing duplicate scripts by **35%**.
- Constructed web application utilizing **Vue.js**, **Spring Boot**, **Maven**, **Hibernate**, **Micronaut**, and **PostgreSQL** to collect language preferences for 10,000+ non-literate refugees to customize **AWS Pinpoint** for the Refugee Division's texting campaigns.

Caraburo IT Consulting

May 2023 - September 2023

Software Engineer Intern

Minneapolis, MN

- Facilitated creation of full-stack web application using **React**, **Python**, **Google Maps** and **Places API**, and **MySQL** to search for affordable daycare centers in **20+** states through interactive maps displays, location tracking, and quick view features.
- Created messaging system between **100+** parents and daycare centers with **WebSocket** to allow for image sharing and texting.

Project Experiences

Scholarly | Northwestern WildHacks Winner - Best Use of AI in Education

April 2024 - Present

Python, MongoDB, FastAPI, Claude-3, React, TypeScript, Tailwind

- Co-founded **AI** educational platform to promote accessibility, simplifying **10,000,000+** research and academic materials into **6** literacy levels and formats to then be saved and shared digitally in platform classrooms for educators and students.

The Garage Launchpad

September 2023 – Present

Python, React, TypeScript, Tailwind, AWS, Next.js

- Developed full stack web application using **React**, **Python**, **AWS Lambda**, **AWS API Gateway**, and **AWS Relational Database Service** to create a dynamic directory of **1,500+** alumni with keyword filtering through **SQL** queries.

Database Storage & Query Optimization

January 2025 – March 2025

C++

- Designed buffer pool with LRU-K eviction for **10,000+** pages, B+ Tree index enabling **10×** faster lookups, and optimized query execution with hash joins and Top-N, enhancing concurrency via crabbing, disk scheduling, and SQL acceleration.

OurConnection Prototype

April 2024 – September 2024

Python, React, MongoDB, TypeScript, Tailwind

- Spearheaded platform for incarcerated women to post their stories and increase awareness through a pen-pal program, interviewing **5+** current and past incarcerated women and prototyping with Women Initiating New Directions throughout the design process.

Skills & Interests

Programming Languages: Python, Java, C++, C, TypeScript, JavaScript, Swift, HTML, CSS

Technologies: React, Vue, AWS, MongoDB, SQL/NoSQL Databases, Next.js, Spring Boot, Hibernate, SwiftUI, FastAPI, NumPy

Interests: Education, Graphics, Full Stack Software Engineering, Database Systems, Machine Learning, AR/VR Programming