

Elaine Cui

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Education

Northwestern University

Expected June 2026

B.S. in Computer Science, Minor in Mathematics

Evanston, IL

- **GPA: 3.95/4.00** | ACT: 35 | Dean's List
- **Relevant Coursework:** Data Structures, Algorithms, Computer Systems, Machine Learning, Object-Oriented Programming, C and C++ Programming, Java Programming, Functional Coding, Discrete Mathematics, Multivariable Calculus, Linear Algebra

Professional Experiences

Minnesota Government IT Services | Health Department

June 2024 – Present

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.

The Garage Northwestern

September 2023 – Present

Full Stack Software Engineer

Evanston, IL

- Built dynamic website by leveraging **React**, **TypeScript**, and **AWS** to centralize entrepreneurship workshops, alumni databases, and idea creation for **1,500+** startups, **1,000+** students, and alumni in 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.

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.

OurConnection Prototype

April 2024 – Present

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.

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.

Evanston Bus Tracker

February 2024 – March 2024

C, C++

- Retrieved bus information to perform navigation using OpenStreetMap through **API** implementation and graphical displays, providing **200+** buildings and bus times for **20+** stops on campus to increase ease of navigation for students.

Python Subset Execution Environment

January 2024 – February 2024

C

- Implemented parts of **Python's** scanner, execute, and memory components in **C** by tokenizing input, traversing operational graphs for function calling and variable assignments, and managing memory allocation with pointers, reducing time complexity by **25%**.

YouTube to MP3 Converter

July 2023 – August 2023

Python, JavaScript, CSS, HTML

- Designed and developed website utilizing **Python**, **HTML**, **CSS**, and **YouTube Data API** to convert YouTube videos into **MP3** files (with error handling) — adopted by school media club for video editing by **50+** students.

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: Graphics, Machine Learning, AR/VR Programming, Full Stack Software Engineering, Video Creation, Image Processing