

# Bowen Cheng

773-943-0056 | [bowencheng@u.northwestern.edu](mailto:bowencheng@u.northwestern.edu) | <https://www.linkedin.com/in/bowen-cheng-nu/>

**Relevant Links:** [Website](#) | [Github](#)

**Programming Languages:** Python, Java, JavaScript, C, C++, HTML, CSS, SQL, Racket, TypeScript

**Frameworks:** React, Node.js, NumPy, pandas, Matplotlib

**Technologies:** Git, AWS, PostgreSQL, VS Code, Sublime Text

## EDUCATION

### Northwestern University

June 2026

- B.S. in Computer Science and Mathematics, GPA: 3.97/4.0
- **Coursework:** Functional Prog., C/C++ Prog., Discrete Math, Intro System Prog., Data Structures and Algorithms, System Databases, Scalable Software Architectures, System Networks, Honors Probability and Stochastic Processes

## WORK EXPERIENCE

### GHY Impact Capital

July 2024 - Present

*Software Engineer Intern*

Chicago, IL

- Analyzed FHFA, AEI, and House Canary Datasets using Python (Pandas, NumPy, Matplotlib) to drive innovative solutions for affordable real estate
- Engineered frontend components in a React, TypeScript, and Vite project, enhancing user interface and accelerating website launch
- Automated the verification of AWS RDS instance backups with a Python script, streamlining processes and reducing risk of data loss

### Fulton Music Society

June 2024 - August 2024

*Web Design Intern*

Evanston, IL

- Awarded SIGP+ grant to fund internship, one of 25 prestigious awards given to Northwestern students annually
- Facilitated check-in process for 20+ students, communicated expectations, and addressed parent/student inquiries
- Led web design efforts, created wireframes and prototypes, and refined content strategy for effective communication

### Mathnasium

February 2023 - December 2023

*Math Tutor*

Chicago, IL

- Enhanced communication, patience, adaptability, and ability to simplify complex concepts

## PROJECTS

### SmartBrain Project | React, Node.js, PostgreSQL

2024

- Built a full-stack web application featuring face detection, user authentication, and a dynamic scorekeeping system
- Integrated Clarifai machine learning API for facial recognition, implementing API key authentication in backend for security
- Learn Git for version control and Postman for backend development

### OpenStreetMap Processing | C++

2023

- Developed a navigation application utilizing OpenStreetMap (OSM) to deliver real-time bus arrival predictions and pinpoint closest bus stops
- Parsed XML map data using C++ and integrated Chicago Transit Authority's API to dynamically retrieve and display real-time bus arrival predictions

### nuPython | C

2023

- Created a Python-like language parser in C, implementing foundational features of "nuPython"
- Developed an execution environment to handle basic computations and print statements
- Applied Google Test methodologies to ensure robust testing and validation

### ToddleBand | Design Thinking and Communication Course

2023

- Collaborated with a physical therapist in the Shirley Ryan Ability Lab to fabricate attachment methods for toddler gait-tracking technology
- Organized and communicated with 4-person team to ensure timely completion of project

## ACTIVITIES

### Violinist

2012-Present

- Improved interpersonal skills, live performance ability, flexibility, and professionalism
- Soloed with Fulton in Residence in Oaxaca, Mexico; Ho Chi Minh City, Vietnam with Imagine Philharmonic Orchestra; Honolulu, Hawaii with University of Hawai'i Orchestra

### Competitive Math

2018-2023

- Sharpened problem-solving skills and perseverance to work through challenging problems
- Awards: AIME Qualifier; 1st in ICTM; 1st place McCarthy-Murzyn award from City of Chicago Math League; Semifinalist from Modeling the Future Challenge