

# Bowen Cheng

[bowencheng@u.northwestern.edu](mailto:bowencheng@u.northwestern.edu) | 773.943.0056 | [LinkedIn](#) | [GitHub](#) | [Website](#)

## EDUCATION

---

### Northwestern University

Evanston, IL

*B.S./M.S. in Computer Science; GPA: 3.98/4.0*

*September 2023 – June 2027*

**Coursework:** Distributed Systems, OS, Networking, Databases, ML, Computer Security Systems, Probability, DSA

## EXPERIENCE

---

### Medline Industries

Northfield, IL

*Software Development Intern*

*June 2025 – Present*

- Built a Python-based voice agent pipeline using Azure STT/TTS, GPT, and RAG over Azure AI Search to prototype a generative AI system that understands IT Helpdesk requests and reduces manual routing latency

### Aqualab

Evanston, IL

*Undergraduate Research Assistant*

*March 2025 – Present*

- Architected and deployed Splashv2, a fully reproducible, config-driven traceroute ingestion pipeline with Dagster, Docker Compose, ClickHouse, and Grafana, reducing researcher setup time from days to under one hour
- Enabled scalable ingestion, processing, and annotation of 1.6M+ RIPE Atlas traceroutes with IPInfo enrichment
- Accelerated traceroute geolocation by 86% through multi-core parallelization and optimized data workflows

### Prescience Lab

Evanston, IL

*Undergraduate Research Assistant*

*March 2025 – June 2025*

- Implemented localization functionality for a peer-to-peer platform for privacy-preserving sensor data processing
- Parsed UWB sensor output into  $(x, y, z)$  coordinates and broadcast locations over libp2p for user tracking

### Northwestern Institute on Complex Systems

Evanston, IL

*Undergraduate Research Assistant*

*December 2024 – June 2025*

- Engineered a low-latency LED control system in C to study coupled oscillators in firefly populations, integrating a laptop, Raspberry Pi, and addressable LEDs to enable precise, real-time dynamic lighting sequences
- Designed a data pipeline from laptop to Raspberry Pi via UDP over an Ethernet cable, achieving sub-5ms latency

### Northwestern Wildhacks

Evanston, IL

*Corporate Engagement Member*

*June 2024 – May 2025*

- Collaborated with 4-person team to raise \$9,500+ from multiple sponsors for Northwestern's largest hackathon

### GHY Impact Capital

Chicago, IL

*Software Engineering Intern*

*July 2024 – September 2024*

- Created AI-powered tool that extracts Jira tickets from Git commits and auto-generates release notes across repos
- Automated Aurora database backup checks with Python, Boto3, and GitHub Actions to ensure snapshot integrity

## PROJECTS

---

### Pokefantasia | AWS, Docker, HTML/CSS, Javascript

*December 2024*

- Built a full-stack web application with serverless backend architecture, enabling users to upload JPEG images for Pokémon type classification, type transformations, or style transformation, generating customized outputs
- Trained and deployed a custom Vision Transformer model on Google Colab to AWS for image classification
- Deployed API endpoints using AWS API Gateway to handle user requests, leveraging Lambda for distributed computation, S3 for image storage, RDS for managing user data, and ECR for dependency management

## TECHNICAL SKILLS

---

**Languages:** Python, C, C++, Java, SQL, HTML/CSS, Racket, TypeScript, Rust, Go

**Frameworks:** React, Node.js, pandas, NumPy, Matplotlib, OpenCV, Tailwind CSS, Dagster

**Developer Tools:** Git, AWS, VS Code, GitHub Actions, Docker