

Bowen Cheng

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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