

Xiaomin Liu

xl4624@nyu.edu | linkedin.com/in/xiaomin-liu | github.com/xl4624

Education

New York University

May 2026

Bachelor of Arts in Computer Science (with Honors) and Mathematics

GPA: 3.8

Coursework: Data Structures, Algorithms, Operating Systems, Programming Languages (Graduate level), Parallel Computing

Experience

New York University High Speed Research Network Lab

Aug 2024 – Present

Software Engineer — CoreLink Server Team

New York, NY

- Implementing features and services in Rust for Corelink, a low-latency networking framework for research applications

New York University Courant Institute

Aug 2024 – Present

Teaching Assistant

New York, NY

- Conducting weekly office hours and grading assessments for Basic Algorithms (CSCI-UA 310) supporting over 50 students

Niantic

May 2024 – Aug 2024

Software Engineer Intern — Pokémon GO: Maps/Explore/AR Team

Bellevue, WA

- Processed coastline data with BigQuery to define an ocean dataset, eliminating 8 billion (40% total) Pokémon spawnpoints
- Reduced weather API calls by 78% by implementing logic in Java to invalidate ocean weather cells, saving \$280k annually
- Developed a distributed quadtree merging algorithm to normalize S2 cells in Apache Beam, compressing geodata by 99.1%
- Integrated Sentry into Pokémon GO's client using C#, .NET and Unity to monitor unhandled exceptions and crashes, capturing 1.4M daily errors alongside relevant metadata for improved diagnostics

New York University Center on Race, Inequality, and the Law

Mar 2024 – May 2024

Research Assistant

New York, NY

- Automated legislative bill searching and tracking process to Google Sheets, saving 10+ weekly hours of manual searches
- Built a Legiscan API client in Python and pandas to increase tracked bills by 175% and provide real-time status updates

Vantage.sh

July 2023 – Oct 2023

Software Engineer Intern

New York, NY

- Launched Azure Active Resources, a Ruby on Rails feature filtering Azure spending by resource metadata for 20,000 users
- Designed a Temporal Workflow to concurrently fetch 100,000+ records of resource metadata from 30 Azure services
- Integrated multi-series line graphs using HTML and JavaScript to visualize related resource costs over 30-day periods

Projects

S2shell | Rust, C++

- Ported Google's S2 Geometry Library to Rust for robust computational geometry and spatial indexing on the sphere
- Implemented core S2 data structures and algorithms including S2Point, S2CellId, S2Cell, and S2Region
- Created a custom linear algebra module supporting 2D/3D vector operations like dot products, cross products, etc.

Multiplayer Chess | Python, Flask, JavaScript, WebSocket, SQL (PostgreSQL), HTML, CSS, Docker

- Led a team of 3 in developing an online multiplayer chess website where users can play against each other via links
- Implemented real-time board updates, a dynamic move history table, and a chat feature using JavaScript and HTML
- Challenges included verifying moves, handling spectators joining mid-game, and asynchronous move broadcasting

Skills

Languages: Python, Rust, Java, C, C++, C#, JavaScript, TypeScript, Ruby, SQL, HTML, Bash, CSS

Technologies: Pandas, NumPy, Unity, .NET, Django, Flask, Docker, Azure, GCP (BigQuery, Dataflow, GCS), Sentry, Linux

Concepts: System Design, Computer Networking, Distributed Systems, Compilers, REST APIs, Backend, Unit Testing