Xiaomin Liu
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Education

New York University *May 2026*
Bachelor of Arts, Computer Science and Mathematics **GPA:** 3.84
Honors: Presidential Honors Scholars Program (Top 10%) | CAS Scholarship (full-ride)
Relevant Coursework: Data Structures | Basic Algorithms | Computer Systems Organization | Data Management and Analysis (Databases)
Activities: BUGS@NYU (NYU's Open Source club) Developer | Tech@NYU Tech Trek Tutor

Stuyvesant High School *June 2022*
High School Diploma **GPA:** 92.4

Experience

Niantic - Incoming Software Engineering Intern May 2024

New York University - Research Assistant March 2024 - Present
Python, pandas, PostgreSQL, Google AppSheet, LegiScan API

- Assisting in the development and maintenance of a legislative bill tracking system for the NYU Center on Race, Inequality, and the Law to support advocacy efforts on AI-driven technology deployed by law enforcement agencies

Vantage - Software Engineering Intern July 2023 - Oct 2023
Ruby, Ruby on Rails, JavaScript, HTML, PostgreSQL, Azure, Temporal, Sentry

- Launched Azure Active Resources, an Azure resource utilization and costs tracking feature that enables 6,500+ users to filter down on their Azure spending and identify unused or inactive resources still incurring costs
- Designed and built a Temporal pipeline that asynchronously updates ~100,000 records by leveraging Azure's REST APIs to fetch resource metadata from over 30 different Azure services per user
- Integrated a line graph with HTML and JavaScript (Chart.js) to display related resource costs across 30 day periods
- Wrote and maintained 40 unit tests and documented the process of adding new Azure Active Resource services

Projects [github.com/xl4624]

RCC (Current)
Rust, C, Assembly

- Building a C Compiler with a handwritten lexer and recursive descent parser in Rust, targeting ARMv8 assembly

Chess with Friends
Python, Flask, JavaScript, Socket.IO, PostgreSQL, HTML, CSS, Docker

- Led a team of 3 to develop an online multiplayer chess website where users can challenge others by sharing a link
- Implemented real-time updates to the chessboard and move history table after a player makes a move using Flask and Socket.IO and added an interactive chat for players to communicate during a match using JavaScript and HTML
- Directed project management efforts by delegating tasks among team members, conducting code reviews, and documenting/testing the codebase

Debugging Memory Allocator
C++

- Created a custom memory allocator in C++ using a linear, sorted free list with metadata headers to manage memory blocks and implemented methods for splitting oversized freed memory blocks and coalescing adjacent blocks

Sudoku Solver
Go, JSON, HTTP

- Built a CLI web scraper that fetches the latest Sudoku puzzles from sudoku.au and solves them in ~2s using a depth-first search backtracking algorithm prioritizing the most constraining cell with the fewest legal moves

Skills

Languages: Python, Java, C++, C, JavaScript/TypeScript, Ruby, HTML, Lua, SQL, CSS, Bash
Frameworks and Libraries: pandas, NumPy, Ruby on Rails, React, Flask, Django, Matplotlib, Node.js, Express
Technologies: Git, Unix, Docker, Azure, Vim, Sentry, Temporal, Postman