Xiaomin Liu
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Education

New York University   *May 2026*
Bachelor of Arts, Computer Science, **Minor** in 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)

Experience

Niantic - Incoming Software Engineering Intern   May 2024

BUGS@NYU - Software Developer   Jan 2024 - Present
- Collaborating with a team of 6 to develop a Leetcode Multiplayer open-source platform this semester

Vantage - Software Engineering Intern   July 2023 - Oct 2023
Ruby, Ruby on Rails, JavaScript, HTML, PostgreSQL, Azure, Temporal, Sentry
- Launched <u>Azure Active Resources</u>, 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 workflow that asynchronously updates ~100,000 records by leveraging Azure's REST APIs to fetch resource metadata from over 30 different Azure services for each user
- Integrated a line graph using HTML and JavaScript to display aggregated related resource costs in 30 day periods
- Minimized issues reported by Sentry logs by writing and maintaining 40 unit tests and documented the process of of adding new Azure Active Resource services for future developers

Projects [github.com/xl4624]

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 using C++ that supports malloc, free, and realloc functions while reporting on memory leaks and preventing buffer overflows via canaries
- Utilized 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 using pointer arithmetic

sudo ku
Go, JSON, HTTP
- Built a CLI web scraper that fetches the latest Sudoku puzzles from <u>sudoku.au</u> and solves them in ~1ms using a depth-first search backtracking algorithm prioritizing the most constraining cell with the fewest legal moves

COVID-19 Visualization
Python, pandas, Matplotlib
- Analyzed and visualized COVID-19 data from the CDC COVID Data Tracker using pandas and Matplotlib to create a choropleth map that tracks the number of cases and deaths in the United States as the pandemic progressed

Skills

Languages: Python, Java, C++, JavaScript/TypeScript, Ruby, HTML, C, Lua, SQL, CSS, Bash
Frameworks and Libraries: Ruby on Rails, React, Flask, Django, pandas, NumPy, Matplotlib, Node.js, Express
Technologies: Git, Unix, Docker, Azure, AWS(EC2, RDS), Sentry, Temporal, Postman, Vim