

# Xiaomin Liu

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## Education

<b>New York University</b> Bachelor of Arts in Computer Science (with Honors) Coursework: Operating Systems, Programming Languages (Grad level), Database Systems (Grad level), Parallel Computing	<b>May 2026</b> <b>GPA:</b> 3.8
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## Experience

<b>NYU High Speed Research Network Lab</b> Research Assistant (Corelink Server) <ul style="list-style-type: none"><li>Implementing features and services in Rust for Corelink, a low-latency networking framework for research applications</li></ul>	<b>Sep 2024 – Present</b> New York, NY
<b>NYU Courant Institute of Mathematical Sciences</b> Teaching Assistant <ul style="list-style-type: none"><li>Holding weekly office hours and grading assessments for Basic Algorithms (CSCI-UA 310), supporting 100+ students</li></ul>	<b>Sep 2024 – Present</b> New York, NY
<b>Niantic</b> Software Engineering Intern (Pokemon GO: Maps/Explore/AR Team) <ul style="list-style-type: none"><li>Processed coastline data with BigQuery to define an ocean dataset, eliminating 8 billion (40% total) Pokemon spawnpoints</li><li>Reduced weather API calls by 78% by implementing logic in Java to invalidate ocean weather cells, saving \$280k annually</li><li>Developed a distributed quadtree merging algorithm to normalize S2 cells in Apache Beam, compressing geodata by 99.1%</li><li>Integrated Sentry into Pokemon GO's client using C#, .NET and Unity to monitor unhandled exceptions and crashes</li></ul>	<b>May 2024 – Aug 2024</b> Bellevue, WA
<b>NYU Center on Race, Inequality, and the Law</b> Research Assistant <ul style="list-style-type: none"><li>Automated the legislative bill searching process to Google Sheets, saving lawyers 10+ hours a week on manual searches</li><li>Built a Legiscan API client in Python and pandas to increase tracked bills by 175% and provide accurate bill status updates</li></ul>	<b>Mar 2024 – May 2024</b> New York, NY
<b>Vantage.sh</b> Software Engineering Intern <ul style="list-style-type: none"><li>Launched <u>Azure Active Resources</u>, a Ruby on Rails feature filtering Azure spending by resource metadata for 20,000 users</li><li>Designed a Temporal Workflow to concurrently fetch 100,000+ records of resource metadata from 30 Azure services</li><li>Integrated multi-series line graphs using HTML and JavaScript to visualize related resource costs over 30-day periods</li></ul>	<b>July 2023 – Oct 2023</b> New York, NY

## Projects

<b>S2shell</b>   Rust, C++ <ul style="list-style-type: none"><li>Ported Google's S2 Geometry Library to Rust for robust computational geometry and spacial indexing on the sphere</li><li>Implemented core S2 data structures and algorithms including S2Point, S2CellId, S2Cell, and S2Region</li><li>Created a custom linear algebra module supporting 2D/3D vector operations like dot products, cross products, etc.</li></ul>	
<b>Multiplayer Chess</b>   Python, Flask, JavaScript, WebSocket, SQL (PostgreSQL), HTML, CSS, Docker <ul style="list-style-type: none"><li>Led a team of 3 in developing an online multiplayer chess website where users can play against each other via links</li><li>Implemented real-time board updates, a dynamic move history table, and a chat feature using JavaScript and HTML</li><li>Challenges included verifying moves, handling spectators joining mid-game, and asynchronous move broadcasting</li></ul>	

## Skills

<b>Languages:</b> Python, Rust, Java, C, C++, C#, JavaScript, TypeScript, Ruby, SQL, Shell, HTML, CSS
<b>Technologies:</b> pandas, NumPy, Unity, .NET, Django, Flask, Docker, Azure, GCP (BigQuery, Dataflow, GCS), Sentry, Linux
<b>Concepts:</b> Computer Networking, Distributed Systems, Backend, Compilers, Cloud Computing, Unit Testing, Web Development