Jiaming Liu

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Work Experience

Software Engineer Intern May 2025 – Sept 2025
Amazon Web Services *Vancouver, Canada*

- Engineered a traffic management system for a high-throughput cloud logging service processing **millions of records daily**, implementing a new **AWS SQS** queue architecture that selectively diverts excessive traffic during surge events, preventing system overload while maintaining service for normal users.
- Developed and integrated a **Time-Decay Space Saving** algorithm in **Java** that efficiently identifies high-volume traffic sources with **O(1) query complexity**, reducing CPU utilization by over **30%** during traffic spikes and preventing resource exhaustion during **10x traffic surges**.
- Architected both **asynchronous and synchronous throttling mechanism** that analyzes traffic patterns in real-time to protect system resources while maintaining service quality in a multi-tenant environment.

Software Engineer Intern Apr 2024 – Aug 2024
Microsoft *Shanghai, China*

- Contributed to the microsoft/vscode-gradle project (**18 millions+ installs**) by **redesigning the system architecture**, consolidating the previous three separate Java processes into a single unified process, reducing memory usage by approximately **40%**, enabling its integration into the microsoft/vscode-java-pack and used by millions of users.
- Enhanced the Gradle Daemon plugin display by migrating from the Tooling API to **TypeScript**, resulting in improved performance and user experience within **VSCode**.
- Worked on **CI/CD** pipelines using **GitHub**, contributing to sprints focused on iterative development, telemetry, bug fixes, and feature improvements.
- Contributed to the microsoft/build-server-for-gradle project by implementing a secure **named pipe** IPC method.

Research Assistant (Software Developer) Jan 2024 – Mar 2024
University of Alberta | Prof. Samer Adeeb *Edmonton, Canada*

- Contributed to **MecSimCalc**, an interactive computational web platform, using **React.js**, **TypeScript**, and **Django**.
- Optimized user-configured **Docker** environments, enabling seamless provision and management of multiple development settings.

Software Engineer Intern June 2023 – Oct 2023
Ericsson *Shanghai, China*

- Built a JSON log analysis tool (**Electron**, **Vue3**, **Django**) with data visualization, reducing manual processing time by **90%**.
- Developed a 3GPP protocol browsing system using **Haystack**, **FlexSearch**, and **Vue3**, deployed via **Docker**, benefiting **1000+ employees** and improving efficiency.

Projects

User Persona Analysis and Interaction System | *Langchain, Python, Streamlit* Jan 2024 – June 2024

- Leveraged **Langchain** and LLMs to analyze social media posts, categorizing them by personality and emotion using a dynamically generated framework for quantitative insights into user personas.
- Built an interaction system using **Pinecone** vector DB and RAG to enhance query responses from user posts.

Education

Simon Fraser University Burnaby, Canada
M.S. in Professional Computer Science *Sept. 2024 – Dec. 2025*

University of California, Berkeley Berkeley, United States
Exchange Student, Berkeley International Study Program (BISP), GPA: 3.73/4.0 *Aug. 2022 – May. 2023*

East China Normal University Shanghai, China
B.S. in Software Engineering *Sept. 2020 – July. 2024*