

Amy Li

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Skills

Languages | Java, C, C++, Python, Go, Ruby, JavaScript, SQL, HTML/CSS

Technologies | Apache Spark, React, Ruby on Rails, Next.js, Node.js, Express.js, Flask

Tools | Git, PostgreSQL, AWS S3, Redis, MongoDB, Argo CD, Kubernetes, Docker

Education

University of Waterloo | Bachelor of Computer Science, Business Specialization

09/2020 – 04/2024

CAV: 94.4% & GPA: 3.98/4.00 — Grace Hopper Scholar '22 & '21, Mathematics National Scholarship (\$25,000) '20

Involvement: UW Blueprint, TechNova, Waterloo Business Review, Tech+ Mentor, Math Orientation Lead

Work Experience

Uber | Software Engineer Intern 🦋

06/2022 – 08/2022

San Francisco, CA

- Led cross-team initiative to rearchitect and scale routing simulation service, shipping a **Java** API layer to production to support **5000+** monthly sims across **150+** business use cases, fully deprecating old sim lifecycles
- Achieved over **70%** reduction in average simulation load time and **10x** drop in CPU utilization during sim data loading through redesigning **Redis** data structures and logic flows to enable dynamic sim specifications
- Overhauled simulation resource allocation logic to support more concurrent sims, presenting and implementing designs for custom resource tuning and prioritizing discussion around software evolution and fallback logic

Bloomberg | Software Engineer Intern 🦋

01/2022 – 04/2022

New York, NY (Remote)

- Architected end-to-end ETL pipeline to archive **1.6TB** per month of historical asset position data to **AWS S3**, reducing database volume by **30%** to improve backend service processing performance for **1000+** clients
- Scaled archival job to support **20+ million** data rows using **Apache Spark** and **SparkSQL**, leveraging parallel processing along with resource tuning and caching strategies to lower job time from **3 hours** to **10 minutes**
- Advocated for schema changes to better support sustainable data growth, proposing and driving changes in **Go** service and **PostgreSQL** database to create a partition column on asset position tables

Motive (Formerly KeepTruckin) | Software Engineer Intern 🦋

05/2021 – 08/2021

San Francisco, CA (Remote)

- Spearheaded the first optimization of a new vehicle pairing algorithm, developing **Ruby** scripts to benchmark performance and identify gaps on historical data, resulting in a **7%** increase in algorithm success rate
- Streamlined data collection for the product team through cross-table **SQL** queries to Snowflake, designing **9** visualizations on Redash to improve accessibility to **600,000+** daily geolocation messages
- Owned backend development of API endpoint with **Ruby on Rails**, **PostgreSQL** database migrations, and new data population to each geolocation message passing the service's **Go** pipeline

Leadership

UW Blueprint | Product Manager, Community Fridge KW 🦋

01/2022 – 04/2022

- Defined product strategy for a scheduling platform to increase food accessibility, co-leading team of **9** developers
- Headed weekly client meetings and collaborated with **2** designers on product specs, prototypes, and user testing

UW Blueprint | Project Developer, Social Diversity for Children 🦋

09/2021 – 12/2021

- Built a platform with team of **7** developers using **Next.js**, **AWS**, and **Railway** to streamline program registration
- Drove program waitlist development, leveraging **Prisma** to implement CRUD functionalities to **Heroku PostgreSQL**

TechNova | Hackathon Organizer 🦋

04/2021 – 08/2021

- Founding member of the University of Waterloo's **1st** global women+ in tech hackathon
- Organized cross-team projects, amassing **70+** mentors and **500+** hackers from **25+** countries for **6** days of events