

# Chuangyang Qiao

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## EDUCATION

### University of Toronto

Honors Bachelor of Science in **Computer Science** - (Dean's List; MGPA: 3.74)

Toronto, Canada

Aug. 2019 – Dec 2023

## TECHNICAL SKILLS

**Highlights: 7+ Years of experience in Java development. High proficiency in C/C++ Programming.**

Programming Languages: Java, Python, C, C++, JavaScript, Golang, Shell Script, Assembly, SQL, HTML, CSS

Frameworks & Tools: React, Node.js, Express.js, AWS, Flask, PyTorch, Pandas, Spring Boot, JUnit, Linux, Git

Database: MongoDB, Amazon DynamoDB, MySQL, PostgreSQL, Cloud Storage

Other Skills: Computer Networking, Data Structure, Algorithms, Object Oriented Design, CI/CD pipeline, DevOps, Software Testing, TCP/IP Protocols, Communication, Problem-Solving, Collaboration

## EXPERIENCE

### Amazon

May 2023 – Sep 2023

Software Engineer Intern

Vancouver, Canada

- Improved Core Service Deployment Architecture. Thoroughly changed team's **CI/CD pipeline** deployment workflow and **Data pipeline** processing workflow.
- Enabled our customers to process Data pipeline definition (Artifact) by themselves in their **AWS** Account, instead of using **CI/CD pipeline** in Core Service.
- Developed **5 APIs**. Enabled batch operations of pipeline resources, and interact directly with **AWS** DynamoDB.
- Technical coding skill highly praised by the manager. Contributed **16000+** lines of **Java** code to the Amazon code base, raised **39 CRs** (much higher than average). Maintained test coverage rate of  $\geq 94\%$ .

### B2-ST

Sep 2022 – Present

Full Stack Developer

University of Toronto

- Co-founded a startup company focused on SMS Marketing for E-Commerce, successfully raised **\$3400** in funding from UofT Department of Computer Science Innovation Lab, showcasing entrepreneurship and leadership.
- Developed Full-Stack Web Application and Service using **React**, **Node.js**, **Express.js**, **MongoDB** and **Twilio**. It includes user authentication, an SMS send/receive messaging service, and machine learning analysis system
- Introduced **Stripe API** for user payments for service and developed a subscription plan system.

### Data on Demand

May 2022 – Sep 2022

Data Engineer Intern (SQL)

Beijing, China

- Analyzed financial reports for partner companies using **SQL Server** and **BI** Techniques.
- Cleaned and Analyzed **20+** large data sets using **SQL**.
- Visualized **12** financial reports using MicroStrategy BI, improving financial transparency and decision-making.

## PROJECTS

### Distributed Database System | C++, CMake

Dec 2022 – April 2023

- Designed and implemented a distributed database system from scratch.
- Implemented External Configuration to keep track of data storage and data retrieval.
- Used replication invariance and error detection to enhance **fault tolerance** and detect potential failures.
- Applied **consistent hashing** mechanism to minimize data movement. Implemented **LSM Tree** structure to manage data in disk, (Bloom filter applied). Implemented **B-tree** structure to manage data in memory cache.
- Utilized **master-slave replication** mechanism that guarantees eventual consistency.

### Operating System (Stanford Pintos Project)| C, Docker

Jan 2022 - April 2022

- Implemented a fully functional operating system. Showed proficiency in system-level programming.
- Incorporated lazy waiting and priority scheduling for threads, optimizing system resource utilization.
- Constructed **virtual memory** and system call handler from scratch.
- Built a **file system** with subdirectories, a buffer cache, and synchronization, ensuring efficient data storage.

### AI-Based Reversi | Python, JavaScript

Dec 2022 – April 2023

- Developed AI-Based Reversi Game that using Alpha-Beta Heuristic
- Implement front-end UI Using **JavaScript**