

Chuan Liu

+1(437)-361-2332 | liuchuan0508@gmail.com | liuchuan0508.com

Skills

- Language: Java, Python, C/C++, SQL, JavaScript, HTML, CSS, C#, Shell, R.
- Frameworks: Spring, Spring Boot, Node.js, React.js, Flutter.
- Web & Database: Redis, MySQL, PostgreSQL.
- Tools: Git, Docker, Postman, Jira, Figma.

Education

University of Toronto

2020-09 ~ 2024-11

Major in Computer Science & Statistic (Honours Bachelor of Science)

- Relevant Course: Software Design, Computer Organization, Data Structures, Algorithms, Database Systems, Machine Learning, Deep Learning, Probability.

Work Experience

Apple

2023-06 ~ 2023-09

Backend Software Development Engineer Intern

- Built functions and refactored the architecture of an internal sales tracking CRM using **Java** and **SpringBoot**. Examined the existing factory-pattern, three-layer backend architecture, refactoring it to include a fourth "view-object" layer for enhanced security, limiting exposure of sensitive client sales information (e.g., serial numbers) in **JSON** output when interacting with **JPA** connections; Created an API connection for data filtering, providing different data views based on user login permissions.
- Participated in the architectural design and development of a sales incentive program in **Python**. Integrated various algorithms to calculate sales performance and implement a reward/penalty system based on 13-week rolling sales data. Handled big-data processing of up to one million data points with **Pandas**, optimizing runtime performance through **multithreading** with priority and time-based FIFO caching, reducing runtime by 66%, from 45 minutes to 14 minutes.
- Collaborated within a team of 11 in an **Agile** environment, actively participating in daily scrums to build rapport, resolve conflicts, and ensure effective communication with cross-functional teams, including Product Management and Database teams. Facilitated clarification of API requirements and maintained project alignment.

Project Experience

Campus Anonymous Social App

- Developed a secure and comprehensive platform using **Spring Boot** for backend development, **MySQL** for database management, and **Redis** for caching and real-time data processing.
- Designed and implemented the frontend with **Flutter**, ensuring a seamless and responsive user experience.
- Implemented robust security measures, including JWT for authentication, encryption protocols for data protection, and secure communication channels to protect user anonymity and data integrity.

Game Design

- Collaborated with Sheridan College's Game Design program to develop a local multiplayer party game using **Unity**, designed for engaging group play and dynamic interactions.
- Led the development team in implementing game mechanics, designing levels, and optimizing performance, preparing for the 2025 Toronto Level Up Showcase.
- Conducted extensive playtesting sessions to gather feedback, refine gameplay mechanics, improve user interface design, and ensure a high-quality and enjoyable user experience across various platforms.

Air Ticket Booking System

- Designed and developed a comprehensive airline ticket booking system using **Java**, implementing clean architecture and design patterns for scalability and maintainability.
- Directed the development of a user-friendly graphical user interface to enhance user experience, streamlining the booking process and integrating modules like flight search, booking, and payment processing.