Sarah Liu

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EDUCATION

University of British Columbia   Vancouver, BC
Bachelor of Science in Computer Science   *Expected May. 2026*

Relevant Coursework: Data Structures and Algorithms, Relational Databases, Operating Systems, Software Construction.

TECHNICAL SKILLS

Programming Languages: JavaScript, TypeScript, C, C++, Python, Java, R, SQL
Technologies: HTML, CSS, React, MySQL, Blender, Oracle

PROJECTS

UBC Insights | *TypeScript, JavaScript (Node & React)*

- Developed a web-based tool that allows users to upload UBC course datasets and perform custom queries to retrieve statistics such as course averages, pass/fail counts, and enrollment details.

- Leveraged **Chart.js** to render graphs, offering actionable insights such as trends in course averages, pass/fail rates, and yearly patterns.

- Utilized **TDD** with **Mocha** and **Chai** to validate a **RESTful** backend that handles dataset processing with **asynchronous** parsing of large zip files and efficient storage of structured data.

- Integrated real-time updates using **React** state management to ensure the user interface reflects dataset additions and deletions without page refreshes.

League Stats Tracker | *SQL (Oracle), Javascript, HTML, CSS,*

- Developed a web application to analyze win rates of champions, builds and players and track friend duo statistics for LOL players.

- Designed and implemented a **relational database** from scratch, including a detailed **ER diagram** with elements like entities, relationships, weak entities, and ISA relationships.

- Developed and **normalized database schemas** to ensure **data integrity** and **optimize query performance**.

- Implemented **advanced SQL queries** with sanitization, and operations like **division** and **nested aggregation**.

- Created a **comprehensive SQL script** to initialize the database, including table creation, constraints, foreign keys, and data population.

Financeable | *Javascript, HTML, CSS*

- Awarded **TecHacks Fellowship second place** against 60 university and high school students.

- Collaborated with team members using Qoom to develop a simplified stock market simulator to enhance financial literacy among young students.

Study Buddy | *Javascript, HTML, CSS*

- Secured **second place** overall out of 80 contestants at the Bayco Hackathon, showcasing problem-solving and teamwork within a competitive environment.

- Developed a website using HTML, CSS, and JavaScript featuring study timers, journaling, and to-do lists to combat decreased motivation caused by the pandemic.

EXPERIENCE

Blenz Coffee   Sep. 2024 - Present
Barista   *Vancouver, BC*

- Serves over 100 customers daily in a fast-paced environment, ensuring accurate order preparation and a positive guest experience.