SAMANTHA (SAM) LUI

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EDUCATION

Bachelor of Computer Science | Vancouver, B.C.
University of British Columbia | *Sept. 2024 - Present*

Advanced Diploma – Clinical Genetics Technology (Graduated with Distinction – 88%) | Burnaby, B.C.
British Columbia Institute of Technology | *Aug. 2020 – Oct. 2021*

Bachelor of Health Sciences (Life Sciences, Fall 2015 – Dean's Honour Roll) | Burnaby, B.C.
Simon Fraser University | *Sept. 2011 – Dec. 2017*

PROJECTS

Pantry Pal | BCS Hacks 2025 | *React + Vite, HTML, CSS, JavaScript, MongoDB, Groq* — *Mar. 2025 – Mar. 2025*

- Built a full-stack recipe app via **React**, **Vite** and **CSS3** to generate AI-powered recipes from user-selected ingredients, cuisine preference and cooking time
- Engineered backend logic and built API routes to store and manage the user's virtual pantry via **MongoDB**
- Integrated the **Groq API** for **JSON**-formatted recipes; collaborated with frontend members to ensure proper data flow

DailySips | Academic | *Java, JUnit, JSwing* — *Jan. 2025 – Apr. 2025*

- Applied **OOP principles** to design a Java-based beverage tracker to help users monitor caloric, sugar and caffeine intake
- Integrated **data persistence** with **JSON**, ensuring proper data management (saving/loading) across multiple sessions
- Wrote comprehensive **JUnit tests** with **JUnit Jupiter**, validating code functionality while improving robustness

Enduro | cmd-f 2025 Hackathon | *React + Vite, HTML, CSS, JavaScript, Groq* — *Mar. 2025 – Mar. 2025*

- Leveraged **React**, **Vite** and **CSS3** to build a frontend application, aiming to increase user engagement in physical activity
- Integrated the **Groq API** to implement an **interactive AI chatbot**, effectively handling API calls and response rendering
- Utilized version control software via **Git and GitHub** for delivery of a **frontend MVP**

Predicting Player Recruitment with PLAI | Academic | *R, Jupyter, Git/GitHub* — *Sept. 2024 – Dec. 2024*

- Analyzed 1,500+ player records from the Pacific Laboratory for Artificial Intelligence to assess player statistics
- Cleaned & transformed data using **R** and **Jupyter**; developed a **KNN-regression algorithm** to identify attributes correlated with high-quality play time
- Effectively collaborated in a team, using **Git and GitHub** to ensure smooth workflows and project management

PROFESSIONAL EXPERIENCE

Provincial Health Services Authority | Vancouver, B.C. — *Jul. 2021 – Aug. 2024*
Clinical Genetics Technologist

- Performed high-volume culturing and analysis of biohazardous patient specimens using advanced cytogenetics and molecular techniques, while training junior technologies and practicum students to full competency

EXTRACURRICULARS & LEADERSHIP EXPERIENCE

The C.O.D.E. Initiative | Vancouver, B.C. — *Sept. 2024 – Apr. 2024*
Remote Volunteer Tutor

- Held one-on-one tutoring sessions for neurodivergent youth, guiding them through web development and Python fundamentals while promoting the development of critical thinking & problem-solving skills

Children's Health and Policy Research Centre | Vancouver, B.C. — *May 2015 – Aug. 2016*
Volunteer Research Assistant

- Supported Dr. Andrea Gonzalez in the B.C. Healthy Connections Project, a randomized controlled trial of the Nurse-Family Partnership program, contributing quantitative data entry, biospecimen collection kit preparation and video-editing

TECHNICAL SKILLS

Languages | HTML, CSS, Python, Java, SQL (PostgreSQL), R
Frameworks | React
Developer Tools | Git, GitHub, Visual Studio Code, Jupyter