

SAMANTHA (SAM) LUI

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EDUCATION

Bachelor of Computer Science (Third Year) University of British Columbia	<i>Sept. 2024 – May 2027</i>
Advanced Diploma – Clinical Genetics (88%) British Columbia Institute of Technology	<i>Aug. 2020 – Oct. 2021</i>
Bachelor of Health Sciences (Fall 2015 – Dean's Honour Roll) Simon Fraser University	<i>Sept. 2011 – Dec. 2017</i>

TECHNICAL SKILLS

Languages | HTML5, CSS3, JavaScript, C++, Python, Java, SQL, R

Frameworks/Libraries | React.js, Node.js/Express.js, Tidyverse (including ggplot2), Tidymodels, JUnit (Jupyter), Java Swing

Databases | PostgreSQL, MongoDB (NoSQL)

Developer Tools | Git, GitHub, Vite, JSON, VS Code, Jupyter Notebooks, Filmora, Canva, Groq API

TECHNICAL PROJECTS

Personal Portfolio Website | Personal | [GitHub](#) *May 2025 – Present*

- Currently developing and maintaining a responsive portfolio website using **React**, **Vite** and modern web standards to showcase technical projects and professional experiences, strengthening personal branding and online presence
- Integrated libraries such as **Typed.js**, **EmailJS**, and **React-Router-DOM** to enable interactive visuals and client-side email functionality, improving overall user engagement
- Built reusable **React** components to ensure layout consistency and reduce code duplication, enhancing website maintainability while supporting scalable component-based architecture

DailySips | Academic | [GitHub](#) *Jan. 2025 – Apr. 2025*

- Designed a **Java**-based beverage tracker using **OOP principles** (CLI and **Java Swing** GUI), allowing users to monitor daily intake of calories, sugar and caffeine, supporting informed health tracking
- Implemented **JSON data persistence** to enable reliable saving and loading of user data, enabling consistent app usage
- Developed unit test suites using **JUnit Jupiter** to validate app logic and edge cases, improving code robustness and long-term maintainability

Pantry Pal | BCS Hacks 2025 | [GitHub](#) *Mar. 2025 – Mar. 2025*

- Co-developed backend logic using **Express.js** and **MongoDB Atlas** for a full-stack **AI-powered** recipe generator application, supporting persistent cloud-based virtual pantry tracking across multiple sessions
- Integrated **Groq's LLaMA 3.3 API** and engineered dynamic prompts to automate personalized recipe generation from user-selected inputs
- Styled and refined frontend components using **React + Vite** to improve visual appeal and layout consistency

Predicting Player Recruitment with PLAI | Academic | [GitHub](#) *Sept. 2024 – Dec. 2024*

- Conducted **exploratory data analysis** using **Jupyter Notebooks** on PLAIcraft playtime data from the Pacific Laboratory for Artificial Intelligence to identify player engagement trends, for further refinement of participant recruitment strategies
- Supported the development of a **K-NN regression model** in **R/Tidymodels** to predict total playtime, achieving a minimum **RMSPE** of 23.8 hours, identifying improvements needed for data collection due to weak model reliability
- Contributed to the final report structure, highlighting model and data limitations to guide future research methodologies

PROFESSIONAL EXPERIENCE

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

- Coordinated workflows for high-complexity genetic diagnostics by collaborating across clinical teams to ensure timely patient result delivery
- Collaborated with internal IT and vendor teams to troubleshoot software and hardware issues related to laboratory information systems and critical equipment, reducing operational downtime
- Mentored practicum students and new technologists, building technical expertise and accelerating onboarding

EXTRACURRICULARS & LEADERSHIP EXPERIENCE

The C.O.D.E. Initiative – Remote Volunteer Tutor | Vancouver, B.C. *Sept. 2024 – Apr. 2025*

- Facilitated beginner/intermediate **Python** and **web development** lessons to neurodivergent youth, adapting teaching style to support learning needs, increasing overall student participation and confidence in technical problem solving