# Derek Chu

Year 2, Combined Major in Computer Science and Mathematics

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**Relevant Links:** LinkedIn | GitHub
**Languages:** Java, C, C++, Python, JavaScript, R, HTML, CSS, Racket, MATLAB
**Frameworks and Technologies:** Git, Vue, Supabase, Tailwind, tidyverse, Visual Studio Code

## EDUCATION

**The University of British Columbia** **Vancouver, BC**
B.Sc., Computer Science and Mathematics *Sep. 2022 – Nov. 2026*

- **Science Scholar Recipient** *(*cumulative average **90%+** with full course load).
- Coursework: Algorithms and Data Structures, Software Design, Computer Systems, Linear Algebra, Statistics, Mathematical Proof, Advanced Calculus, Discrete Math.

## WORK EXPERIENCE

**BrainDump** **Vancouver, BC**
*Software Engineer – Contract-Based* *Sep. 2023 - Present*

- Worked in a small team of **3 developers**, regularly engaged in code reviews and product discussions.
- Implemented **user authentication** processes.
- Developed internal plugins for **user event logging** to analyze user engagement to track **KPIs.**

**PAI Health** **Vancouver, BC**
*QA Tester – Contract-Based* *Dec. 2021 – May 2022*

- **Identified and logged 60+ issues** involving the collection, measure, and analytics of data using **Jira.**
- Conducted field tests to verify beta and production code using Apple TestFlight.
- Communication with developer teams over Slack and daily stand-ups hosted on Zoom.

## TECHNICAL PROJECTS

**Calculator** | GitHub Demo | (JavaScript, HTML, CSS, Git) **August 2023**

- Leveraged DOM manipulation and event handling to enhance web interactivity.
- Extended functionality using keyboard listeners enable typed input.
- Utilized modular code organization to encourage maintainability and ease of testing/debugging.

**Wishlist Management System** | GitHub | (Java, Swing, JUnit, JSON, Git) **January 2023**

- Developed GUI using Swing, allowing user to create and manage a wish list.
- Evaluated UML class diagram and applied design patterns, leading to a **25% reduction** in code coupling and **20% increase** in code cohesion
- Achieved 100% code coverage using data-driven testing with JUnit framework to create unit tests
- Implemented **data persistence** using a third-party JSON package.

**Heart Disease Pain Classifier** | GitHub | (R, JupyterLab) **December 2022**

- Implemented a KNN algorithm to classify chest pain, resulting in an improved accuracy of 42%
- Employed libraries like tidymodels and ggplot2 to enhance data visualization and analysis

## LEADERSHIP EXPERIENCE

**Taiwanese Canadian Cultural Society** **Vancouver, BC**
*Volunteer* *Jan. 2020 – Present*

- Monitored and assisted groups of **20+ children** in cultural activities to facilitate a safe environment.
- Collaboratively formed daily schedules within a dynamic team environment.

**ICPC Regionals 2023** **Vancouver, BC**
*Logistics Volunteer* *Feb. 2023*

- Registered and organized **100+ competitors** and addressed questions during competition.