

# Isabelle Kwan

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## Education

### Simon Fraser University

Bachelor of Science in Computing Science (GPA 3.91/4.33)

Burnaby, B.C.

September 2022 – Present

Awards: SFU Entrance Scholarship (with Distinction), CIBC WiCS Award, CSSS Undergraduate Award, Grace Hopper Scholar 2025, Dean's Honour Roll 2023-2025, President's Honour Roll 2024

## Technical skills

### Languages

Python, JavaScript, TypeScript, PHP, Ruby, C, C++, HTML, CSS, x86

### Technologies

Node.js, React.js, Next.js, Ruby on Rails, Angular, Bootstrap, Tailwind, Flask, PostgreSQL

### Tools

Git, Matlab, Microsoft Office, Docker, Figma, Jira

## Experience

### Research and Development Engineer

University of Waterloo | C#, ARCore, Unity

Sep 2025 – Present

Waterloo. ON.

- Leading research on spatiotemporal data storytelling, synthesizing literature and visualization approaches.
- Prototyping ARCore applications in Unity for 3D spatial interaction and timeline-based data anchoring.

### Software Engineering Intern

Excelar Technologies | Python, Node.js, PHP, PostgreSQL, MySQL, Redis, Docker

Sep 2024 – Apr 2025

Burnaby. B.C.

- Designed scalable APIs, improving access speed by **25%** and supporting seamless user experiences.
- Architected and implemented robust data models and backend systems, optimizing database schemas, reducing redundancy, streamlining data workflows, and enhancing query performance by **20%**.
- Refactored ETL pipelines, increasing data processing efficiency by **15%** and enhancing maintainability.

### HCI Research Intern

SFU Interactive Experiences Lab · NSERC USRA | Javascript, VEGA-Lite, React.js

May 2024 – Sep 2024

Burnaby. B.C.

- Co-authored 2 published Human-Computer Interaction papers on generative AI and self-learning.
- Created scripts to convert user's "study-habits" into interactive visualizations using **VEGA-LITE**.
- Managed 4 projects by facilitating meetings, creating agendas, and assisting in conducting user studies.

## Personal Projects

### Gender Fashion Analysis

| Python, Numpy, Pandas Aug 2025

- Analyzed **5,000+** Zara.ca clothing items to compare gender differences in pricing, materials, and variety.
- Built a machine learning model that predicted clothing gender with 80% accuracy using various parameters.

### Manage Ur Medication (M.U.M)

| Python, Flask, PostgreSQL, Next.js, Docker | NWHacks Jan 2024

- Built a website using **Python, Flask, and PostgreSQL** to assist users with tracking their medication intake.
- Independantly created the UI and front-end pages with a **Next.js** framework and **Material UI** library.

## Volunteer Experience

### President

SFU Computing Science Student Society

May 2024 – Apr 2025

Burnaby. B.C.

- Effectively managed a team of 15, doubling initiatives and increasing community engagement by **150%**.
- Organized a 5-day Silicon Valley trip for students to network with SFU alumni at large tech companies.
- Led the organization of FROSH Week which hosted 9 events, over **60** volunteers, and **300** participants.