

# Ayan Bin Saif

Toronto, ON | [ayan.binsaif@uwaterloo.ca](mailto:ayan.binsaif@uwaterloo.ca)

[in linkedin.com/in/stitches](https://www.linkedin.com/in/stitches) | [github.com/draggle](https://github.com/draggle) | [ayans.dev](https://ayans.dev)

## TECHNICAL PROFILE

Mathematics student at the University of Waterloo specializing in iOS development and Computer Vision. Experienced in building scalable mobile apps and HCI solutions using Swift, Python, and Java.

## EDUCATION

**University of Waterloo** Honours Bachelors of Mathematics (Co-op) 2025 — Present  
Expected Graduation: April 2030

## TECHNICAL SKILLS

**Languages:** Swift, Python, Bash, Java, JavaScript, Racket, HTML/CSS, SQL  
**Frameworks:** SwiftUI, UIKit, React, Tailwind CSS, MediaPipe, OpenCV, Node.js  
**Tools/Tech:** Unix/Linux (CLI), Git (Version Control), Firebase (Auth/Firestore), Xcode, Jira, NoSQL  
**Core Concepts:** Object-Oriented Programming (OOP), Data Structures, UI/UX Design, HCI

## WORK EXPERIENCE

**Apple — iOS App Developer (Mentorship)** Feb 2024 — Jul 2024

- Engineered native iOS applications using **Swift** and **SwiftUI** within an exclusive Apple-sponsored technical mentorship program.
- Architected ‘EduBuddy’ following **Apple HIG**, resulting in a 25% increase in perceived user navigation efficiency during beta testing.
- Managed the full **SDLC** from low-fidelity wireframing to final high-performance deployment in **Xcode**.
- Delivered a high-stakes technical demo to industry executives, highlighting feature scalability and memory management optimizations.

## PROJECTS

**Rate My Rez** | React, Firebase, Tailwind CSS 2025

- Launched a full-stack housing platform utilizing **React** for the frontend and **Firebase** for real-time data persistence.
- Implemented secure **serverless CRUD operations** allowing users to manage reviews via Firebase Auth verification.
- Designed responsive UI components that ensured 100% layout consistency across mobile and desktop devices.

**Cheeto-Fingers** | Python, OpenCV, MediaPipe 2025

- Developed a touch-free HCI mapping 21 hand-knuckle landmarks to OS mouse events using **Vector Calculus**.
- Engineered a **jitter-buffering algorithm** to stabilize cursor movement, reducing sensor noise by 90%.
- Built a custom gesture-recognition engine for media navigation, including precision scrolling and volume toggling.

**Dice Duel Showdown** | Java, Python, JavaScript, HTML/CSS, Tailwind CSS 2025

- Architected a strategic turn-based game featuring a **probability-driven AI** opponent using weighted decision trees.
- Refactored a legacy Python prototype into a robust **Java** backend using **OOP design patterns** like inheritance.
- Deployed a web-based frontend with dynamic state management to track and visualize real-time battle logs.