

Ayan Bin Saif

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TECHNICAL PROFILE

Mathematics student at the University of Waterloo specializing in Full-Stack Development and AI Systems. Experienced in building scalable applications and multi-agent architectures using React, Swift, and Python.

EDUCATION

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

TECHNICAL SKILLS

Languages: Swift, Python, TypeScript, JavaScript, Java, Racket, SQL, HTML/CSS
Frameworks: Next.js 16, React 19, SwiftUI, Node.js, Tailwind CSS 4, Framer Motion, OpenCV
Tools/Tech: Supabase (PostgreSQL), Firebase, Google Gemini (RAG), Git, Unix/Linux, Xcode
Core Concepts: Multi-Agent Systems, Object-Oriented Programming, 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

AlphaHedge | Next.js 16, TypeScript, Supabase, Google Gemini  Jan 2026

- Developed an AI-powered investment research platform at the [Y Combinator Full-Stack Hackathon](#), delivering institutional-grade stock analysis in under 2 minutes.
- Architected a multi-agent council using 4 autonomous agents (Fundamental, Quant, Sentiment, Judge) to synthesize independent financial perspectives via a weighted scoring framework.
- Integrated Google Gemini for RAG-based follow-up Q&A, allowing users to query historical analysis via a persistent chat system.
- Implemented real-time data subscriptions and secure authentication using Supabase and PostgreSQL.

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 clicking.