# Kreesh Ruparelia

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## EDUCATION

**University of Toronto** — Toronto, ON
*Honours Bachelor of Science in Computer Science* — *Apr. 2028*

- **Relevant Coursework:** Web Programming, Databases, Software Engineering, Software Design, Systems Programming, Data Structures I & II, Computer Networks, Algorithm Design & Analysis, Machine Learning

## EXPERIENCE

**Our Wave Hub** — Toronto, CA
*Software Developer Intern* — *Feb. 2022 – June 2022*

- Explored iOS app development using **Swift** and **SpriteKit**, through hands-on project work.
- Developed **4 iOS applications**, that included haptic user input, **physics models** for games, **REST API** integration, and **user authentication** to create an interactive user experiences.
- Worked with fundamental software development concepts during the **design process** such as the **Software Development Life Cycle (SDLC)**, with an emphasis on user interface and user experience principles.

## PROJECTS

**RapidResponseAI: Emergency Responder** | rapid-response-ai.vercel.app
*Python, Flask, React, OpenRouter, Mapbox*

- **Led 4-person team** as Scrum Master at BramHacks 2025 semi-finals, architecting AI platform that **reduces emergency plans from 2-3 hours to 60 seconds** using **5-agent system** processing NASA satellite data.
- Engineered Flask backend (**5 parallel AI agents** via asyncio) and React dashboard (Mapbox, Socket.IO) generating **evacuation routes, resource allocation, and multi-language alerts** for emergency managers.
- Implemented smart caching with TTL-based invalidation across **4 APIs**, **reducing costs by 60%** while maintaining <**100ms data access** for real-time disaster monitoring.
- Managed **30+ pull requests** and resolved merge conflicts across **15+ feature branches**, delivering production-ready demo in **72-hour sprint** with **99% uptime** during judging.

**CineCo: Movie & TV Tracker** | github.com/KreeshRuparelia/CineCo
*Swift, SwiftUI, Firebase, REST APIs, MVVM*

- Architected full-stack iOS application with **Firebase authentication** (email/password + anonymous sessions) and **Firestore real-time sync** across **3 collections** (watched, watchlist, skipped), implementing **MVVM architecture** with async/await concurrency patterns and **ObservableObject state management** for reactive UI updates.
- Engineered personalized discovery system integrating **TMDB REST API** with **multi-page pagination** across **20+ results per request**, implementing **compound filtering logic** (language, vote thresholds, exclusion sets) and **dynamic content loading** to deliver **infinite-scroll recommendations** via gesture-based swipe interface with real-time card transitions.
- Implemented comprehensive state management across **8+ SwiftUI views** with **real-time Firebase queries**, achieving **3-way composite indexing** for sub-100ms data retrieval and maintaining user session persistence.
- Optimized image loading performance through **custom async caching layer** with **URLSession** integration, reducing network overhead **by 70%** via memory-based poster image caching across **300+ movie/TV show cards** during infinite scroll navigation.

## TECHNICAL SKILLS

**Languages:** HTML, CSS, JavaScript, TypeScript, SQL, Swift, Python, Java, C, C#, Objective C, Bash, RStudio
**Frameworks & Tools:** React, Node.js, Express, Angular, Next.js, Vue, MongoDB, Firebase, .NET, Git, AWS, Linux