

Kreesh Ruparelia

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EDUCATION

University of Toronto

Toronto, ON

Honours Bachelor of Science in Computer Science

Sep 2023 – 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

CineCo: Movie & TV Tracker | github.com/KreeshRuparelia/CineCo

Swift, SwiftUI, Firebase, REST APIs, MVVM

- Architected a full-stack iOS application with **Firebase authentication** (email/password + anonymous) and **real-time sync** across **3 collections** (watched, watchlist, skipped). Implemented the app using **MVVM architecture**, with async/await concurrency patterns and **ObservableObject state management** for reactive UI updates.
- Engineered a discovery system that integrates the **TMDB's 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 a 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.

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.

Pomodoro Task Manager | pomotask-eta.vercel.app

React, JavaScript, CSS, HTML

- Built a productivity web app that implements the Pomodoro Technique with **3 customizable timer phases** and **auto-phase transitions**, at every 4 focus sessions through custom interval-based timers.
- Engineered React state management across **6+ hooks**, coordinating timer lifecycle, CRUD operations for integrated task queue, and **dynamic session duration controls** (1-60 minutes) with real-time UI synchronization.
- Designed the UI to have a **responsive two-column grid layout**, implementing checkbox completion tracking and live timer updates during idle states for seamless user experience.

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