

# 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](https://github.com/KreeshRuparelia/CineCo)

*Swift, SwiftUI, Firebase, REST APIs, MVVM*

- Designed a full-stack iOS application with **Firebase authentication** for user email/password verification, and anonymous sessions. Developed the app using **MVVM architecture**, which follows async/await concurrency patterns and **ObservableObject state management** for reactive UI updates.
- Developed a discovery system that integrates the **TMDB's REST API** using **multi-page pagination** across **20+ results per request**. Used **compound filtering logic** to sort by language, vote thresholds, and exclusion sets when **dynamically loading content** and delivered **infinite-scroll recommendations** via a gesture-based swipe interface with real-time transitions.
- Implemented a comprehensive state management system across **multiple SwiftUI views** with **real-time queries** to achieve **3-way composite indexing** for sub-100ms data retrieval and to maintain user sessions.
- Optimized a **custom async caching layer** for image loading through **URLSession** integration, and reduced the network overhead by **70%** via memory-based image caching across **1000+ movie/TV show cards** during infinite scroll navigation.

### RapidResponseAI: Emergency Responder | [github.com/KreeshRuparelia/RapidResponseAI](https://github.com/KreeshRuparelia/RapidResponseAI) | [Demo](#)

*Python, Flask, React, OpenRouter, Mapbox*

- Led a **4-person team** as Scrum Master to BramHacks 2025 semi-finals. Created an AI platform that **reduces wildfire emergency detection times from 2-3 hours to 60 seconds** using a **5-agent AI system** that processes NASA satellite data for anomalies.
- Implemented a Flask backend for the **5 parallel AI agents** via asyncio, alongside a React dashboard using Mapbox, and Socket.IO to generate **evacuation routes, do resource allocation, and send alerts**.
- Used smart caching with TTL-based invalidation across **4 REST APIs**, to **reduce costs by 60%** while maintaining **<100ms data access** for real-time disaster detection.
- Managed **pull requests** and **resolved merge conflicts** across **15+ feature branches** to deliver a production-ready MVP in a 72-hour sprint with **99% uptime** during judging.

### Pomodoro Task Manager | [github.com/KreeshRuparelia/PomoTask](https://github.com/KreeshRuparelia/PomoTask) | [pomotask-eta.vercel.app](https://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.
- Designed the UI to have a **responsive two-column grid layout**, with completion tracking, and live timer updates during idle states for seamless user experience.
- Engineered a React state management system across **6+ hooks** to coordinate timer lifecycle, **CRUD operations** for a integrated task list queue, and offered **dynamic session duration controls** that deploy with real-time synchronization.

## 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