

Ruben Zilibowitz

Email: ruben@rubenz.net | Phone: +61 434 901 405

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Profile

Senior iOS Engineer / Mobile Apps Technical Lead

Ruben is an experienced iOS Engineer with over 10 years of expertise building and scaling mobile applications. He has delivered major consumer-facing apps for leading companies (Optus, GoJek), contributed to the widely used TonalEnergy Tuner app, and is currently leading the development of TonalEnergy Trainer, a new product he has built from the ground up.

In addition to his engineering experience, Ruben holds advanced degrees in mathematics and is undertaking a PhD in **category theory and game semantics**. He frequently uses **Haskell** in his research, applying functional programming concepts to modular design and composable architectures, and is well-prepared to apply these concepts in modern paradigms such as the **Swift Composable Architecture (SCA)**. Across his roles, he has contributed significantly to mentoring, interviewing, and architectural discussions, demonstrating natural leadership in technical settings.

Technologies: Swift, Objective-C, UIKit, SwiftUI (migrations), Combine, CoreData, Swift's async/await concurrency model, MVVM-C, MIDI, MusicXML, C++20, JUCE, Haskell (academic/research), Ruby on Rails (prototype experience), Git, Firebase, Charles Proxy, REST APIs, modular architecture, authentication & MFA, audio DSP

Experience

Developer L4, Wipro (Optus client) — Sep 2024 – Present

- Member of the **Authentication (AuthN) and Authorization (AuthZ)** squad for the **MyOptus iOS** app.
- Tested and validated the refactored **token lifecycle management** system (AuthN) using **Charles Proxy**, covering concurrent API scenarios such as refresh collisions, expiry handling, and safe teardown.

- Defined and enforced clear **access levels** (service-level, account-level, **MFA** level) across modules with lightweight guards in networking and navigation layers.
- Ensured consistent **MFA prompts and secure re-authentication** across user journeys.
- Rewrote legacy **UIKit flows** into modern **SwiftUI**, improving maintainability and laying the groundwork for long-term architectural migration.
- Worked within a large, enterprise agile team, collaborating across multiple squads and stakeholders.

Owner, Integritech Pty Ltd (TonalEnergy) — May 2024 – Present

- Contributed features to **TonalEnergy Tuner**, a widely adopted, top-ranking cross-platform tuning app.
- Currently leading development of **TonalEnergy Trainer**, a new product built from scratch, extending the company's suite of music apps.
- Architecting and coding the application in **C++20** with the **JUCE** framework, focusing on advanced audio analysis, note segmentation, pitch tracking, and interactive training features.
- Designed and implemented **modern CMake build systems** and reusable cross-platform audio modules.
- Collaborating across **US time zones** with colleagues in the United States to coordinate ongoing development.
- Explored backend licensing solutions in **Ruby on Rails** (prototype phase, not deployed), before the team adopted a prefab approach.

Senior iOS Engineer, Trideca (Optus client) — Jan 2023 – May 2024

- Led migration of persistent storage to **Core Data**, improving data reliability and offline support.
- Refactored and modularised legacy codebase to enable reuse across multiple Optus apps.
- Implemented the initial **token refresh and error-handling logic** (AuthN) to manage authentication flows, reducing race conditions and improving session stability.
- Rewrote the entire networking layer using **Swift's async/await concurrency model**.

Senior iOS Engineer, Beem It — Feb 2022 – Jan 2023

- Delivered new features for Beem It's **digital wallet** app (payments, peer-to-peer transfers, customer engagement).
- Built UI flows and custom components using **UIKit**, **Swift**, and **Combine**.
- Integrated with secure APIs and ensured compliance with financial security standards.

Senior iOS Engineer, Talent Engage (Optus client) — Nov 2020 – Feb 2022

- Developed new features in the **MyOptus app**, including **eSIM activation** and **call translation** flows.
- Worked extensively with **Swift**, **Objective-C**, **UIKit**, and **Combine**.
- Actively participated in architectural discussions around adopting and implementing the **MVVM-C pattern** for iOS, helping define best practices for modularity and maintainability.

Product Engineer (Senior Manager), GoJek — May 2019 – Oct 2020

- iOS engineer for **ride-hailing products** handling hundreds of thousands of bookings daily across Indonesia and SE Asia.
- Collaborated in the design of a new **custom software architectural pattern for mobile**, loosely inspired by **Uber RIBs**, to improve modularity and scalability across apps.
- Worked extensively with **Google Maps for iOS** (custom overlays, routing, live tracking, location services) to support real-time ride tracking and booking flows.
- Conducted numerous **iOS engineering interviews** and contributed to the design of the **mobile interview playbook**, advocating for a balanced approach combining coding assessments with culture-fit evaluation.
- Travelled to Surabaya to support **university recruitment** initiatives and onboard new graduates into GoJek's engineering teams.
- Mentored junior engineers and contributed to code reviews, raising code quality standards across the team.

Education

2024 – Present

: **PhD, Mathematics (in progress)**; Macquarie University (Sydney, Australia)

- * Research focused on **Category Theory** and **Game Semantics**, with applications to logic and computation.
- * Exploring connections between advanced mathematics and software architecture, including functional programming and modular system design.

2023

: **Masters, Mathematics**; Macquarie University (Sydney, Australia)

- * Master's by research. High Distinction result.
- * Thesis title: *The Game Semantics of Free Cartesian Closed Categories: a Syntactic Derivation*

2019

: **BSc, Honours First Class, Mathematics**; Western Sydney University (Sydney, Australia)

- * Thesis title: *Leavitt Path Algebras, some new homomorphisms and representations obtained using computational techniques*
- * *Dean's Merit List, 2019*
- * *School of Computer, Data, and Mathematical Science award for Mathematical Science, 2019*

2010

: **BSc, Mathematics**; University of New South Wales (Sydney, Australia)

- * *Minor: Computer Science*
- * *University of NSW Faculty of Science Vacation Scholarship, 2008*

Conferences and Training

iOS Conf Singapore 2020

: National University of Singapore, Singapore, January 2020

* Participated in two days of workshops on SwiftUI, concurrency, and server-side Swift.

Apple World Wide Developer Conference (WWDC)

: San Francisco, USA, 2016

* Attended Apple labs, keynotes, and talks for one week