José Carlos Torres Rivera – AI Architect & iOS Technical Lead

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Summary

Software Architect and **Technical Lead** with **12+ years of experience** in iOS application development and architecture. I specialize in integrating **Generative AI** into mobile products and **leading multidisciplinary teams** to deliver high-impact solutions. Generative AI has rapidly become a mission-critical enterprise strategy (AI spending grew 6× from 2023 to 2024) [1], and I leverage this trend by incorporating advanced models like OpenAI's GPT-4 and Google's Gemini into apps. My focus is on **MLOps**, **clean software architecture**, and **automation** to scale products efficiently. I am driven by tangible results – such as boosting search accuracy, speeding up release cycles, and reducing bugs – ensuring each technological improvement yields **measurable benefits** for end-users and the business.

Technical Skills

- **Languages: Swift** (Expert), **SwiftUI**, **Objective-C**, **Python**
- **iOS Frameworks: SwiftUI**, **UIKit**, **Combine**, **Core Data**, **MapKit**, **AVFoundation**
- **Architectures: Clean Architecture**, **MVVM**, **Microservices**, **Modularization**
- **Backend & Cloud: RESTful APIs**, **GraphQL**, **AWS** (S3, Lambda), **Firebase**, **MongoDB**
- **Artificial Intelligence & MLOps:**
- *Mobile ML:* **Core ML**, **TensorFlow Lite**, **ML Kit**, **Vision** (Apple Vision)
- *LLM Integration:* **Prompt Engineering**, **RAG** (Retrieval-Augmented Generation), **LangChain** [2] [3]
- *Generative Models:* **OpenAI GPT-4**, **Google Gemini** (multimodal LLM) **.LaMA** (Meta), **Mistral**, **DALL-E**
- *MLOps Pipelines:* **MLflow**, **Vertex AI**, **Docker**, **Jenkins**, **GitHub Actions**, **Fastlane**, **Xcode Cloud**
- **Methodologies: Agile/Scrum**, **Tech Team Leadership**, **OKR Planning**, **Strategic Communication**, **Mentorship**

Professional Experience

Coppel (Remote) — *Project Lead & Senior iOS Developer* (May 2022 – Aug 2024)

- Led a **cross-functional team of 8** (iOS, backend, web, QA) to **optimize app architecture** and spearhead strategic **AI adoption** in Coppel's main shopping app. This involved introducing an improved search engine, which increased result relevance and boosted user conversion from

searches to key actions (approx. 10% uptick). The revamped platform added advanced filters and personalized results, aligning with Coppel's digital strategy .
- Restructured the app's internal search and recommendation engine for better precision. **Search result accuracy improved ~10%**, leading to more users finding relevant products and completing purchases. (Personal impact estimate based on A/B testing and user flow analytics.)
- Established an **on-demand innovation squad** for experimental features. This agile approach **accelerated feature deployment from weeks to days**, enabling rapid prototyping of AI-driven functionalities without disrupting core development.

Procesar — *Technical Lead iOS* (Mar 2018 – May 2022)

- Designed and deployed a **modular biometric authentication framework** (facial and voice recognition) used across three major financial applications. This framework became a **security standard** internally, strengthening multi-factor authentication. It was officially registered with **INDAUTOR**, emphasizing its innovation in fintech security.
- Implemented an **automated testing suite** using XCTest, raising code coverage from ~62% to 85%. This higher test coverage led to significantly fewer production bugs and faster, more confident releases Critical incidents in production dropped from ~10 per year to about 1 per year, reflecting the improvements in quality control.
- Temporarily managed the entire Mobile App Development department for 3 months, ensuring continuity of deliverables and mentoring junior developers during a leadership gap. Also coordinated legal and compliance aspects of APIs and SDKs developed (patent/copyright documentation).

Previous Roles: Claro Música & Ironbit — *Senior iOS Developer / Technical Lead* (2014 – 2018)

- Led development of **consumer iOS apps** and SDKs in domains like music streaming (Claro Música) and enterprise solutions (Ironbit). Integrated features such as multimedia playback, push notifications, and in-app purchases.
- Emphasized **stability and code quality**: refactored legacy codebases to adopt MVVM and Clean Architecture patterns, which reduced recurrent QA bugs and improved maintainability. Oversaw automated testing and CI/CD pipelines (Jenkins, Fastlane) to catch issues early and streamline deployments.

Featured Generative AI Projects (Experimental)

- **Self-Evolving Legal System:** Developed a prototype legal research system using **autonomous AI agents** and **retrieval-augmented generation (RAG)**. The system can analyze legal documents and dynamically update a corpus of laws and regulations. By employing "agentic RAG," the AI agents perform multi-step reasoning and iterative retrieval for complex queries, rather than a single static lookup [7]. *Example:* wh asked about the impact of a new law, the agent retrieves relevant statutes, cross-references case law, and synthesizes a detailed, cited report automatically.

- **Condominium App with Virtual Assistant:** Built a native **SwiftUI** app for condominium management with an integrated **"virtual concierge" AI assistant**. Using a RAG pipeline, the assistant answers residents' queries and handles tasks like maintenance requests and booking amenities. This **virtual property manager** improves response times and availability (24/7 support). Similar AI concierge solutions in property management have shown the ability to triage

maintenance issues in minutes and automate routine inquiries [8], enhancing efficiency for administrators and satisfaction for residents.

- **Technical Support Assistant (RAG):** Created an iOS **chatbot for IT support**, leveraging **LangChain** frameworks and Google's **Gemini** LLM. The assistant uses retrieval-augmented generation to pull answers from internal knowledge bases and provide users with context-rich, accurate tech support answers. Such **AI support chatbots** are increasingly common – about 31% of enterprises have adopted them to deliver 24/7 reliable support for employees and customers [9]. This project demonstrated how an in-app AI assistant could resolve common technical questions with <4 hour turnaround (vs. >24 hours by traditional support), by referencing up-to-date documentation and previous tickets.

- **Marketing Content Generator:** Implemented a **prompt-engineering system** that auto-generates product descriptions and marketing copy for e-commerce. The tool takes key product details and produces optimized descriptions in the brand's tone. This approach brings consistency and speed to content creation – an important factor as **85% of online shoppers consider detailed product info crucial** in their purchase decisions [10]. Through this AI-driven content generator, the marketing team could instantly produce SEO-friendly descriptions and variations for A/B testing, helping scale the production of marketing materials while maintaining quality.

Education

- **B.Sc. in Mathematics** – *Universidad Autónoma de Nuevo León (UANL)*, Mexico. Foundation in advanced mathematics and algorithms, which provides a strong analytical background for problem-solving in software engineering and AI.

Key Performance Indicators (Select Achievements)

- **Search Engine Accuracy:** ~10% improvement in relevant results after search module overhaul, leading to more effective user queries. This increased the likelihood of users finding what they need and taking action.
- **Search-to-Conversion Rate:** ~10% estimated increase in conversions from search (e.g. product purchases or feature engagement), based on analysis of user flows before vs. after search optimization.
- **Deployment Acceleration:** New feature release cycle reduced from **weeks to days** by introducing agile "feature squads" and CI/CD improvements. Faster deployments allowed quicker user feedback and iterative improvements.
- **Incident Reduction:** Cut critical production incidents from ~10 per year to ~1 per year through better testing, monitoring, and proactive architecture refinements. The nearly 90% reduction in severe issues improved uptime and user trust.
- **Code Coverage:** Improved unit test coverage from **~62% to 85%**, aligning with industry findings that higher coverage correlates with fewer production bugs and faster releases. This improvement significantly enhanced code reliability and confidence in each release.
- **Biometric Framework Adoption:** Achieved **100% adoption** of the in-house biometric authentication SDK across **6 corporate apps** (financial and services), standardizing secure login and verification for ~1 million+ combined users. 3

- **Support Response Time:** Improved IT support chatbot responses from **>24 hours to <4 hours** (in a pilot phase) by using an AI assistant with real-time knowledge retrieval. This dramatically increased support efficiency and user satisfaction, as also reflected by industry trends of AI enabling instant answers.

(Note: Metrics above are based on internal tests, logs, and observations in the absence of public business KPIs. They are intended to illustrate impact and were inferred or estimated from available data.)