Marcelo Rangel

Full Stack Software Engineer · .NET/C# · AI/RAG · React/Next.js · Vue · React Native

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SUMMARY

Full stack software engineer focused on .NET/C# back-end engineering and AI systems, especially RAG applied to real-world products. Since 2022 I have shipped end-to-end products (APIs, web, mobile and AI services) for healthcare, real estate, BI, aviation and retail, usually as the lead developer. I work with Clean Architecture, CQRS, automated testing, CI/CD and ADR-based documentation, and build AI features into products (RAG, LLM-based OCR, agents, voice). Experienced working remotely with async, written communication.

AI-NATIVE ENGINEERING

- **Context engineering:** custom Claude Code skills that encode the development cycle (plan, implement, review, session logging, checkpoint/resume) and release flows (TestFlight, Google Play), plus a CLAUDE.md context file per repository.
- **Spec-driven development:** Obsidian knowledge vaults as the single source of truth, with requirements and ADRs referenced by ID in the code and kept separate from agent session memory.
- **Agentic workflows:** people and AI agents work from the same documented decisions, which keeps long-running projects consistent across sessions.
- **Open source:** the workflow is published as a reusable kit at github.com/marcelorang/context-engineering-kit.

TECHNICAL SKILLS

- **Back end:** C#, .NET 8/9/10, ASP.NET Core Web API, Entity Framework Core, Dapper, MediatR (CQRS), FluentValidation, SignalR, Hangfire, Quartz, Serilog; Python, FastAPI; Node.js, Express, Prisma
- **Front end:** TypeScript, React, Next.js, Vue 3, Vite, Tailwind CSS, shadcn/ui, Vuetify, Pinia, Zustand, TanStack Query, React Hook Form, Zod, Tiptap, Storybook
- **Mobile and desktop:** React Native, Expo, NativeWind; Tauri (Rust)
- **AI / LLM:** RAG, LangChain, LangGraph, RAGFlow, embeddings, vector search, LLM-based OCR, AI agents; OpenAI, Claude, Gemini, Mistral, LiteLLM, Ollama; Whisper, TTS, Demucs; audio and video processing (MoviePy, librosa, FFmpeg)
- **Databases:** SQL Server, PostgreSQL, SQLite, Supabase, Chroma
- **Cloud and DevOps:** Azure (Entra ID, Blob Storage, Service Bus, Key Vault, Application Insights, Azure Pipelines), AWS (ECS, ECR, IAM), Terraform, Docker, GitHub Actions, Vercel
- **Testing:** NUnit, xUnit, Moq, FluentAssertions, Playwright, Vitest, Jest
- **Practices:** Clean Architecture, CQRS, DDD, multi-tenancy, REST APIs, OpenAPI, ADRs, Git, code review, AI-assisted development (Claude Code), remote async collaboration

PROFESSIONAL EXPERIENCE

Full Stack Software Engineer (Contractor) — AtomDev

May 2022 – Present · Recife, Brazil · Remote

Software studio building custom platforms for clients. Lead developer on client products, from back end to mobile.

- **Naja — healthcare management SaaS (Jul 2025 – Present):** lead front-end developer in Next.js, React and TypeScript (scheduling, medical reports, electronic health records, patient queues), with a Tiptap report editor and an API client generated from OpenAPI (Kubb, React Query, Zod). Contributed to the .NET 10 API (EF Core, Dapper, SQL Server), deployed on AWS (ECS) with Terraform.
- **FFL — airline pilot training platform (Jul 2025 – Present):** designed and built the first version of the RAG pipeline over aircraft technical manuals (OCR, embeddings, RAGFlow, LangGraph), with automatic question generation and scraping of real-world incidents to build training scenarios. React Native/Expo app, .NET 10 API on PostgreSQL and a Python LLM worker (LangChain, OpenAI).

- **SmartPromoter — retail execution platform (Sep 2026):** Python OCR service (FastAPI, LiteLLM, Gemini) that reads printed stock reports and flags out-of-stock items; offline-first Expo app, Next.js back office and .NET 10 CQRS API.
- **MonitoriDocs — document and workflow platform (Apr 2026 – Jun 2026):** .NET 10 back end with a workflow engine, Vue 3 front ends and per-component deploys on Azure Pipelines.
- **Monitori — construction monitoring (Feb 2025 – Jul 2025):** .NET 9 API with Clean Architecture and CQRS (MediatR), SQL Server and Azure (Entra ID, Blob Storage, Key Vault); Vue 3 web app and React Native app; tests with NUnit, Playwright and SpecFlow.
- **HubIndicador — enterprise BI for client Avila Digital (Oct 2024 – Jun 2026):** migrated the front end from Vue 2 to Vue 3; .NET 8 API, Azure AD B2C and embedded Power BI.
- **MedZip — clinic management platform (2022 – Aug 2023):** scheduling and patient records; .NET API, Vue front end and Ionic app, deployed with Azure Pipelines.

PERSONAL PROJECTS

- **Live show backing-track pipeline (2026):** automated production of backing tracks for a 2-hour live tribute show. 58 songs from 5 albums are separated into stems on GPU (Demucs, BS-Roformer, Mel-Band Roformer), get beat tracking with an adaptive click grid (beat_this), a spoken cue track (Edge TTS) and guitar tuning detection, and come out as ready-to-play REAPER projects for in-ear monitoring. Python, PyTorch (CUDA), librosa, FFmpeg.
- **BoxRadio (2026, in development):** AI race engineer for Assetto Corsa Competizione: in-game overlays plus a voice engineer that calls out changes (fuel, weather, brakes, gaps) and answers questions from a wheel button, running fully on the user's PC. Tauri (Rust), React, TypeScript, Python, faster-whisper, Kokoro TTS; bilingual Next.js landing page already live on Cloudflare Pages: acc-telemetry.pages.dev.
- **ScoreFlow (2026):** web sheet-music editor with OMR, MIDI playback and MusicXML export. Next.js, Zustand, Verovio (WebAssembly), Tone.js, Supabase.
- **Zordon AI (2026):** voice personal assistant with a 3D avatar. FastAPI, Claude API, ElevenLabs, Whisper, Next.js, Three.js.
- **AI media pipelines (2025):** AI dubbing prototype that builds voice-cloning datasets (vocal isolation with MDX-Net, silence-based segmentation, faster-whisper transcription); stem separation with Demucs and Spleeter plus BPM detection; and an AI clipper that finds the best moments of a YouTube video and cuts them automatically (Gemini, Whisper, PySceneDetect, MoviePy).

EDUCATION

- Associate Degree in Web Development — Anhanguera University, Brazil — Jul 2023

LANGUAGES

- Portuguese: native
- English: intermediate spoken and written, advanced reading