

Juan Miguel Fernández Araya

Software Engineer — Infrastructure, Full Stack & AI Integration

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PROFESSIONAL PROFILE

Systems and infrastructure generalist with full stack development and production AI integration. Over two years as the primary technical owner of a company's systems: AWS cloud infrastructure, stabilization of a business-critical legacy system, and web applications in production. The focus is complete solutions: software that runs reliably, is backed up, stays secure and keeps its costs under control.

PROFESSIONAL EXPERIENCE

Technical Lead — Grupo Ecoquintas, Costa Rica (Hybrid)

Mar 2024 – Present

- Promoted to Technical Lead (June 2026): most of the company's infrastructure decisions have been proposed and implemented by him; the other developers regularly request his guidance for orientation and planning, and he introduces new working practices (e.g., taught the manual production deployment process enabled by the Unicorn + Nginx setup)
- Sole owner of infrastructure, DevOps and data operations in a small development team at a non-software company
- Stabilized the company's business-critical legacy system: replaced the development server with Unicorn/Nginx, split a single Docker Compose into separate dev/prod environments (removing a recurring cause of production downtime) and froze unpinned dependencies
- Migrated the production MySQL 8 database to AWS RDS Aurora, resolving character-encoding issues (utf8mb4) during the process
- Designed the company's email-marketing architecture (~100k emails/month) with HubSpot, Amazon SES (custom MAIL FROM, DMARC, SPF) and N8n/Airflow automation
- Deployed and operates the company's self-hosted tool stack (Plane, Outline, Twenty CRM, Airflow, N8n) with Docker, Nginx, Cloudflare origin certificates and Microsoft Entra ID single sign-on (multi-tenant OAuth)
- Investigated and remediated a real security incident (malicious GitHub Actions workflow injected through a compromised access token), then hardened access: broad-scope tokens revoked and EC2 access moved from exposed SSH to AWS SSM Session Manager
- Led the development of a client-facing platform for account statements and financial projections, authoring 100% of the Python backend
- Resolved 200+ critical bugs and built Apache Airflow DAGs that keep internal systems in sync with HubSpot CRM

Full Stack Developer — Freelance, Costa Rica (Remote)

Jan 2023 – Mar 2024

- Developed and delivered 4 complete web applications end to end
- Implemented serverless email solutions to improve scalability and communication
- Built robust backend services for request management and SEO analysis
- Highlight: MabaAgroExport, a commercial platform built with Vite.js, React and Tailwind CSS

Software Engineer Trainee (Internship) — Cia Web Sites, Brazil (Remote)

Feb 2022 – Dec 2022

- Worked under Agile/Scrum methodology to meet sprint goals
- Designed, implemented and tested 20+ new features on the platform
- Collaborated with senior developers to write clean, maintainable and efficient code

HIGHLIGHTED PROJECTS

Verde — Legacy Rescue — *Flask, MySQL / RDS Aurora, Docker, Nginx + Unicorn, GitHub Actions*

- Stabilized a business-critical legacy system (database from 2001): production WSGI server, separate dev/prod Docker environments, frozen dependencies and a managed RDS database
- Authored and is executing a documented restructuring plan: CI/CD, GitFlow, MD5 → Argon2 migration and consolidation of business logic

Ecoquintas Hub — *Next.js 15, React 19, TypeScript, Tailwind CSS, AWS Cognito, Python API*

- Led the end-to-end development of a client-facing financial portal (Next.js 15 + Python), authoring 100% of the backend
- 2nd contributor to the company's core ERP (222 commits) and to Airflow payment-automation DAGs syncing internal systems with HubSpot

KaraHero AI — *Python, AI Transcription, React Editor, Demucs, ffmpeg, .Irc / .srt*

- Built an AI pipeline (Whisper/AssemblyAI, Demucs, CTC forced alignment) that turns any song into word-synced karaoke with a FastAPI + React editor

Custom MCP Servers — *TypeScript, Model Context Protocol*

- Built custom MCP servers in TypeScript: job search with fit analysis and CV export, and image vectorization for Gravit Designer

TECHNICAL SKILLS

Infrastructure:	AWS (EC2, RDS Aurora, S3, SES, SSM, CloudWatch), Docker & Compose, Nginx, Unicorn, GitHub Actions CI/CD, Cloudflare, Linux
Backend:	Python, Flask, Django, Django REST Framework, FastAPI, Apache Airflow, N8n, REST APIs
AI Integration:	AssemblyAI/Whisper, Demucs, forced alignment, Ollama, RunPod/Replicate, MCP (TypeScript)
Frontend:	React, Next.js, TypeScript, JavaScript, Tailwind CSS, Astro, Vite
Databases:	MySQL / RDS Aurora, PostgreSQL, Redis, SQLite, Turso (libSQL)
Also:	React Native, Android Studio, Laravel, WordPress, Unity, Godot Engine

EDUCATION

Bachelor's Degree in Informatics and
Multimedia Technology
Universidad de Costa Rica (UCR)

CERTIFICATIONS · LANGUAGES

- Linux Essentials — NDG / Cisco Networking Academy (2022)
- Leadership Development Experience — AIESEC Global Talent, Curitiba (2022)
- Spanish — Native
- English — Intermediate (B2)