# Sergio López Jiménez

LEAD FULL-STACK DEVELOPER · PRODUCT ENGINEER

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## PROFILE

Telecommunications Engineer (BEng + MEng, University of Granada) and full-stack developer. Since late 2024 I have been the sole technical owner of PictoEscritura, a Spanish education platform used by schools every day: I decide the architecture, build it, ship it and answer for it in production — Ruby on Rails backend, React SPA, cross-platform Flutter apps, and the entire Google Cloud infrastructure written as code with Terraform.

My foundation is networks, telematics and cybersecurity: my master's thesis applied machine learning to the detection of cyber-attacks in networks and communication systems, and my degree project was a honeypot for hardening corporate networks. I work with a lot of autonomy, measure technical decisions by what they move in the product, and use AI daily as leverage.

## EXPERIENCE

### Lead Full-Stack Developer & Technical Owner — PictoEscritura

Dec 2022 – Present · Remote

*Spanish education platform (web + mobile) in production, used daily by schools.*

- Joined as a full-stack developer and took over full technical direction in late 2024 — sole owner of backend, frontend, mobile, infrastructure and cloud.
- **Led the complete migration from a managed PaaS to Kubernetes on Google Cloud** (GKE Autopilot, Cloud SQL, Memorystore, Cloud Storage, Cloud CDN, Cloud Armor, Load Balancing). Designed the target architecture and built it entirely as code with Terraform — multi-environment, private networking with VPC and Private Service Access, managed secrets, remote state — and executed the migration without service interruption. **Result: ~45% lower projected monthly cost** than the incumbent provider's proposal.
- Built the **cloud infrastructure for the product's machine-learning learning-analytics module** (CDTI-funded R&D project developed by a technology centre) and integrated it with the application: nightly batch pipeline on Cloud Run Jobs orchestrated with Workflows and Cloud Scheduler, with time series in TimescaleDB.
- Own the delivery cycle: containers, CI/CD, reproducible Kubernetes deployments, observability with Cloud Monitoring and Logging, and security as a requirement (private networking, least privilege, managed secrets, WAF).
- Develop, release and maintain the **cross-platform Flutter apps** for iOS, Android, Windows and macOS from a single codebase, including store review cycles and updates on an installed user base.

### Full-Stack Developer — Freelance

Jul 2018 – Present

- Deliver software end to end for my own clients and through freelance platforms, with international teams. On most projects I am the whole team: requirements, architecture, build, deployment and maintenance.
- **Web:** Ruby on Rails, React, Vue, JavaScript, HTML. **Mobile & desktop:** Flutter for iOS, Android, Windows and macOS, published on Google Play and the App Store.
- **Data, backend services & infrastructure:** PostgreSQL, MySQL and SQLite, **Firebase** (Firestore, Cloud Functions), REST APIs, containers with Docker and Podman, Kubernetes, Linux, and data analysis with the **ELK stack**.

### Mobile Application Developer — Arquiure SL

Jun 2021 – Nov 2021

- Built the Stuarq Gest mobile app from scratch with Flutter and published it on Google Play and the App Store; maintained and improved the Ruby on Rails backend and the web version.
- Ran the full mobile cycle: developer accounts and signing, store listings, Apple and Google review processes, versioning and updates on installed users.

## TECHNICAL SKILLS

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|---|---|
| **LANGUAGES** | Ruby, JavaScript, Dart, SQL, HTML/CSS; Python, C, Java, VHDL (working knowledge) |
| **BACKEND & WEB** | Ruby on Rails 8, REST APIs, React, Vue |
| **MOBILE** | Flutter — iOS, Android, Windows, macOS; Google Play & App Store releases |
| **CLOUD & DEVOPS** | Google Cloud (GKE, Cloud SQL, Cloud Run, Cloud CDN, Cloud Armor, Memorystore), Terraform, Docker, Podman, Kubernetes, CI/CD, Linux, Git |
| **DATA & BAAS** | MySQL, PostgreSQL, SQLite, TimescaleDB, ELK stack, Firebase (Firestore, Cloud Functions) |
| **SECURITY & NETWORKS** | Network and systems design, network security, honeypots, ML-based attack detection, telematics |

## EDUCATION

### MEng, Telecommunications Engineering

University of Granada · 2021 – 2023

Thesis: machine-learning analysis and detection of cyber-attacks in networks and communication systems.

### BEng, Telecommunications Technology

University of Granada · 2017 – 2021 · Telematics

Final project: honeypot system to study and harden security in corporate networks.

## CERTIFICATIONS & LANGUAGES

Docker, Podman & Kubernetes — container development, deployment and orchestration (CampusMVP, 2024) · Elements of AI (SEPE) · Flutter, React, Vue, JavaScript & Ruby on Rails (Udemy, GoRails) · **Spanish** native · **English** professional working proficiency (B2)