Adrián Sánchez Rodríguez

Software Engineer & Architect | Python · Full-Stack · Energy Systems

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Languages

Spanish — Native (C2)
English — Fluent (C1)
French — Fluent (C2)

Skills

Software Development
Python · TypeScript
FastAPI · SvelteKit · Node.js
REST APIs

Databases
MySQL · PostgreSQL
MongoDB · DuckDB

Infrastructure
Docker · Git · GitLab
AWS (SageMaker, Bedrock, S3)

Domain
Domain Modeling
Energy Systems
Data Engineering
Power BI

Certifications

Data Scientist Professional — REE
90h · Python, AWS SageMaker, Bedrock

Web Developer Bootcamp — Udemy
63h · JS, Node.js, Express, MongoDB

Achievements

2nd Place — #ReactivaMadrid Hackathon (2020)
Covid-19 crowd control: Python & ArcGIS

Sciences & Enseignement Fellowship
EDF & Institut de France (2016–17)

Research Award — École Polytechnique (2016)
Best project in Sustainable Energies

About

Nuclear Engineer by training, software developer by trajectory. Built technical capabilities from scratch at each career step — from nuclear project management in Paris to full-stack architecture at Spain's electricity TSO — which makes for a self-taught programmer with genuine domain depth. Sole developer and Product Owner of **PlanningCRM** — a production CRM used by 20 engineers to manage grid access requests in the Spanish electricity system (Python, SvelteKit, MySQL, Docker). Deep domain modeling experience in regulated energy environments; production expertise with AWS (SageMaker, Bedrock, S3). Comfortable owning the full lifecycle from schema design to containerised deployment.

Professional Experience

Redeia Group — (Madrid, Spain)

Red Eléctrica — Planning Engineer & Software Architect   Jan 2024 – Present

PlanningCRM (sole developer, 2+ yrs): full-stack CRM (SvelteKit + Python + MySQL + Docker) used by 20 planning engineers to centralise grid access requests from large consumers, renewable producers, and distribution companies — turning submissions into investment signals for national grid development

Designed domain model covering Spain's grid access regulatory framework: connection types, stakeholder categories, and request statuses; owned all features, bug fixes, and Docker-based production deployment

Integrated AWS Bedrock AI tools into planning workflows, improving team productivity across planning stages

Technical lead for one of Spain's eight electrical regions (Spanish Grid Plan 2025-2030)

Supervised 4 junior engineers in Python development and repositories maintenance (Git)

IoSN Builder (team of 3, GitLab): Python ETL pipeline for ENTSO-e's pan-European power modelling — led architecture and database design decisions, implemented the DuckDB layer (schema, SQL queries, data validation); second stage generates PLEXOS-compatible XML via the Python PLEXOS API

> **Results:** Delivered production CRM from scratch — sole developer, 2+ years, 20 users, zero external support. Leading architecture and data engineering for pan-European grid modelling pipeline (40 TSOs, 36 countries) in a collaborative team, including third-party API integration learned independently.

Elewit — Energy Partner — Innovation LAB   Jan 2023 – Dec 2023

Internal mobility at Elewit (Redeia's tech & innovation arm); managed Big Data & AI projects in System Operation and Asset Management

Managed Elewit's AWS account: cost optimisation, resource tagging, FinOps — SageMaker, Bedrock, S3

Built Power BI dashboards for innovation portfolio monitoring

> **Results:** Launched 3 Big Data & AI projects; established data-driven decision-making approach for the innovation team.

Red Eléctrica — Planning Engineer & Full-Stack Developer   Sept 2019 – Dec 2022

PlanningManager (FastAPI + OOP): replaced VBA macros with a Python domain model around electrical assets (overhead lines, cables, substations) and a FastAPI REST layer over a MySQL DB for cost management

Introduced documentation and structure enabling full handoff — now overseen by 2 colleagues I trained

Designed and maintained MySQL architecture for electrical asset management; led migration to AWS (Aurora)

Led financial consolidation for Spain's H2026 Transmission Grid Plan (€6.4B)

Electrical system analyst (network studies, electricity markets, demand coverage)

> **Results:** Spearheaded company-wide Power BI adoption. Delivered PlanningManager — a documented FastAPI/OOP system that replaced undocumented VBA macros and is now owned by 2 engineers I mentor.

kShuttle — (Levallois-Perret, France)

BI & EPM Functional Consultant   Apr – Aug 2019

Developed turnkey data management solutions (Finance, Risk); contributed to PRIOR — Schneider-Electric's most innovative application of 2019

Education

MSc in Nuclear Energy — Université Paris-Saclay   Sept 2016 – Sept 2017
Decommissioning & Waste Management | Partners: INSTN, CentraleSupélec, ENPC

International Exchange — École Polytechnique   Sept 2015 – Aug 2016
MSc 1: Mechanics and Energy | GPA: 3.65/4 | Thesis: 20/20 (MH) | "X 2013" Promotion

BSc (Hons) in Industrial Engineering — ETSII UPM   Sept 2011 – Feb 2017
Major: Energy Techniques