

EDUARDO COUTO

Tech Lead | Senior Software Engineer | Applied AI

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PROFESSIONAL SUMMARY

Tech Lead and Senior Software Engineer with 18+ years building web, mobile and SaaS systems, now focused on applied AI. In development, I work with AI agents (Claude Code, Codex) organized into subagents, custom skills and TDD. In product, I ship AI to end users: a multi-tenant Text-to-SQL chat (LangChain, FastAPI, Next.js) and a RAG-based assistant. Latest project: rewrote the COSIP backend (SEFAZ Salvador) from NestJS to Laravel and Oracle, preserving the API contract. Cut release cycles from bimonthly to weekly and reduced public-health (SUS) data delivery to the Ministry of Health from 3 months to 48 hours.

Open to Tech Lead, AI Engineer or Senior Developer roles, remote, in Brazil or abroad.

SKILLS

AI in products: LLMs (OpenAI, Gemini), LangChain and FastAPI (1–2 years), Text-to-SQL, RAG with embeddings, AI agents, MCP server for PostgreSQL, speech recognition and synthesis (Whisper, TTS)

AI in development: Claude Code, Cursor, OpenAI Codex; subagent workflow (architecture, development, QA, code review, security), custom skills, TDD, ADRs and Conventional Commits

Leadership and management: technical leadership of teams of 10–12 (development, QA and support), delivery planning and prioritization, project and stakeholder management

Architecture: REST APIs, multi-tenant SaaS (database per tenant and per subdomain), monoliths and microservices, monorepos, RBAC and auditing, high availability, cross-language system migration preserving API contracts

Backend: Java and Spring Boot (10 years), Node.js and TypeScript (8), PHP (8), Python (4), .NET 8/C# (2), Laravel (8), NestJS with Prisma and FastAPI (1–2 years), Express.js

Frontend and mobile: JavaScript (10+ years), React (10), React Native (4, with 3 Android apps), Angular (2), Next.js (3), Vue 3 (1–2 years), Vite, Tailwind, MUI, Refine, Electron

Data: PostgreSQL (18 years), MySQL (10), Oracle (2), SQL Server, MongoDB, Redis, SQLite, Firebird; BI, dashboards and geo-referencing

Infrastructure and quality: AWS (6 years: EC2, Lambda), Docker, CI/CD, Jenkins, Linux, PM2, Tomcat, Git, GitHub, Git Flow; Jest, Vitest, PHPUnit, pytest, BDD

Methods and domains: Scrum, Kanban, Jira, Microsoft Project, Monday; public health (SUS, e-SUS), government, financial ERP and ERP for internet providers

PROFESSIONAL EXPERIENCE

Maker Ex | Founder and Software Engineer (self-employed)

Sep 2020 – present · Juiz de Fora – MG (remote)

- **COSIP – SEFAZ Salvador (2026, latest):** rewrote the backend from NestJS to Laravel 13 / PHP 8.3 with Oracle (monthly partitioning), preserving the API contract; asynchronous batch pipeline with queues, scheduler, auditing and dashboards; React, MUI and Refine frontend; tests with PHPUnit and Vitest (356 commits).
- **MEx Analytics AI (own product, 2026):** multi-tenant chat that turns natural-language questions into read-only SQL and charts over each client's database; LangChain SQL agent, Python/FastAPI backend, Next.js 14 frontend with TypeScript and Tailwind; YAML semantic layer; PostgreSQL, Oracle, MySQL and SQL Server.
- **MexA:** Python AI assistant with RAG (embeddings, per-client filters and document metadata), in production with real users; monitoring through logs and metrics, and answer evaluation.
- **AI-driven engineering:** development workflow with AI agents (Claude Code, Codex) split into architecture, development, QA, code-review and security subagents, with custom skills, TDD and ADRs; MCP server giving AI agents controlled access to PostgreSQL.
- **GPP – Public Policy Manager:** web platform (React and Vite) and Node.js/Express API with PostgreSQL, multi-tenant with one database per municipality, geo-referencing, dashboards and integration with the federal CECAD database; backend migrated from Java to Node.js and TypeScript while in operation; pilot following 20,000+ people for 2 years.
- **Mobile:** 3 Android apps in React Native and TypeScript (GPP – Digital, for field visitors; GPP – Cidadão; ACE, for endemic-disease control agents), offline with SQLite, Redux Toolkit and Jest tests.
- **Multi-tenant platforms for municipalities and companies (2026):** health exam regulation (NestJS 11, Prisma, PostgreSQL, React, e-SUS PEC integration, SIGTAP/BPA billing) and a logistics and financial ERP (Turborepo monorepo with NestJS, Prisma and React, tenant per subdomain, JWT/RBAC, auditing, Docker).

- **.NET 8 – SEFAZ Salvador:** ASP.NET Core API for Active Directory account management via LDAP, with JWT and API Key, auditing, auditable PowerShell scripts, Swagger and automated tests.
- **AWS and operations:** production deployment on AWS (EC2 Ubuntu, PM2, automated script) of a Node.js and React management system; AWS cost reduction and stabilization for a growing client, back to the Nov 2024 level with more customers. Also: queue management in Laravel and Vue 3 (Inertia).

MK Solutions | [Lead Software Engineer](#)

Oct 2020 – Dec 2023 · Remote (Santa Cruz do Sul – RS) · previously Full Stack Software Engineer, Apr 2020 – Sep 2020

- Technical lead of a team of about 10 on a full ERP for internet providers (Java monolith): finance, inventory, CRM, connection management via Radius, TV and telephony carrier integration, customer and field-technician apps and customer portal.
- Introduced Git Flow and automatic updates: releases went from 1 every 2 months to 1 per week, with impact on tickets, costs, CS and ROI; new development workflow in three months, with agile methods and quality committees.
- Reorganized schedules of about 200 employees, reducing support costs; high-availability architecture for the ERP.
- As Full Stack: fixed 94% of database inconsistencies in the inventory and asset modules; promoted to lead after 6 months.

Technologies: Java, TypeScript, Node.js, React, MongoDB, PostgreSQL, Docker, CI/CD, Linux, Git, Jira.

Horizon – Innovation and Technology | [Project Coordinator and Tech Lead](#)

Feb 2017 – Mar 2019 · Salvador – BA · previously Full Stack Developer, Mar 2015 – Feb 2017

- Coordinated a team of about 12 (development, QA, deployment, support and vendors).
- Primary-care system for Salvador's SUS with 1M+ registrations; the in-house e-SUS integration cut record delivery to the Ministry of Health from up to 3 months to at most 48 hours.
- Expanded to mobile and new products in PHP, Node.js, React and React Native; the startup reached 40+ municipalities and two state capitals.
- As first developer: architecture and full development of the solution, from database modeling to distribution to multiple clients.

Technologies: PHP, Maker/Low Code, JavaScript, TypeScript, Express, SQL Server, AWS/EC2, Git.

Reviver Private Prison Administration | [Full Stack Developer](#)

Feb 2012 – Mar 2015 · Salvador – BA

- ERP for an operation with 3,000+ employees (inmates, health, inventory, invoicing and finance); migrated Clipper to Maker/Low Code and Firebird to PostgreSQL while preserving data integrity; converted a financial system to Java.

Softwell Solutions | [Full Stack Developer](#)

2010 – 2012

- Official documentation of the Maker All IDE, QA and Low Code product development; deepened Java by analyzing the generated applications.

EDUCATION, COURSES AND LANGUAGES

- Postgraduate (Lato Sensu) in Software Engineering with a focus on Management – UNIFACS, 2016–2018
- Systems Analysis and Development – Estácio, 2010–2014
- Project Planning and Management; Scrum Master (PSM I) preparatory course – Udemy, 2025
- Portuguese – native
- English – fluent