MATEO SANTIAGO ZAPATA MALDONADO

Senior AI Platform Architect | Full-Stack Engineer

Cartagena de Indias, Colombia | +57 317-321-8515 | mateo.zapata.maldonado@gmail.com | LinkedIn | GitHub

Senior Software Engineer and Systems Architect with 9+ years of experience designing, leading, and shipping enterprise web applications and production AI platforms. Specialized in building scalable multi-tenant SaaS architectures using TypeScript, Python, NestJS, React, and PostgreSQL. Proven ability to translate complex operational bottlenecks in healthcare, aesthetic medicine, industrial safety, and B2B commerce into automated, auditable software systems that reduce manual overhead and accelerate revenue conversion.

CORE SKILLS

1. **AI & Multimodal Pipelines:** Multi-Agent & Intent Routing, RAG (pgvector, Voyage AI, LangChain, LangSmith, LangGraph, OpenAI Embeddings), Server-Driven UI (SDUI JSON Runtime), Reasoning Mode Engines, TOON payload compression, MiniMax TTS, Determinism Auditing, Computer Vision, Voice Synthesis Integration, Token Cost Governance (FinOps).
2. **Backend & Architecture:** Node.js, NestJS, TypeScript, Python, RESTful APIs, Real-Time Streaming (SSE, WebSockets), Multi-Tenant SaaS Design, RBAC/OAuth2 Security, BFF.
3. **Frontend:** React 19, TypeScript, Vue.js (Vite), Angular, Ant Design, MUI, Tailwind CSS, Custom Design Systems (Web Components / LitElement), Offline-first PWAs, Microfrontend.
4. **Databases, Cloud & DevOps:** PostgreSQL, MySQL, AWS, DigitalOcean, Docker, Terraform, Linux, Nx Monorepos, Automated Testing (Jest, TDD).

PROFESSIONAL EXPERIENCE

Lead AI Platform & Full-Stack Architect DocBrok AI & MedicQQ — Aesthetic & Dental SaaS Platform (Cartagena, Colombia — Remote) | *Sep 2025 – Present*

Architected and shipped a multi-tenant operating system and sales automation suite tailored for aesthetic plastic surgery and dental practices:

- **Multimodal Sales & Quoting Pipeline (DocBrok AI):** Engineered an automated clinical sales funnel that ingests patient portraits, runs computer-vision facial landmark validation and smile simulations, and generates multi-currency treatment quotes delivered via automated WhatsApp and personalized dentist voice synthesis.
- **Multi-Tenant Clinic Operating System (MedicQQ):** Built an installable React 19 Progressive Web App (PWA) and NestJS backend managing end-to-end patient lifecycles, surgical quotes, payments, and medical records with strict tenant boundary isolation across clinics.
- **Zero-Release AI Configuration:** Designed a database-driven AI service layer allowing clinics to customize communication tone, medical order templates, and translations without code deployments, backed by real-time per-tenant token and vendor API cost tracking.
- **Safe Operational Analytics:** Implemented a natural-language business intelligence chat enabling clinic owners to query live operational metrics via read-only, tenant-fenced SQL generation streamed in real time over Server-Sent Events (SSE).

Senior Full-Stack & AI Solutions Architect (Consultant) GastroPack S.A.S. — Clinical & Industrial Enterprise Systems (Cartagena, Colombia) | *May 2024 – Aug 2025*

Led the architecture and delivery of three core enterprise platforms automating executive intelligence, internal workflows, and industrial workforce safety:

- **Executive Operations & Financial Intelligence (Sofía Platform):** Designed and launched an automated analytics engine unifying 16 clinical and financial domains—including revenue billing, endoscopy scheduling, call center SLAs, and quality compliance—saving executive leadership 2+ hours of daily manual reporting.
- **Conversational Workflow Orchestrator (PraxyAI):** Built a multi-tenant enterprise workflow engine converting natural-language requests into RAG knowledge retrieval, external API integrations, and dynamic Server-Driven UI (SDUI) forms with mandatory human-in-the-loop approval before database persistence.
- **Industrial Workforce Safety Platform (Microvidas):** Engineered a high-concurrency occupational health and gamification platform deployed across major industrial workforces, including Ecopetrol Refinery and Sociedad Portuaria de Cartagena operations.

Frontend Team Leader — Ressolve (Cartagena, Colombia — Remote) *May 2023 – Apr 2024*

- Led the Angular-to-React migration, unblocking the team onto a single shared stack.
- Built LiteElement, a web-component UI library reused by 3 product teams to ship features faster.
- Introduced test-driven development and SonarQube quality gates for a 2–3 person frontend team.

Senior Full-Stack Engineer — Waverley Software (Cartagena, Colombia — Remote) *Oct 2021– Apr 2023*

- Set frontend architecture for SmartBear's VisualTest product, owning component and state design end to end.
- Integrated OAuth2 authentication components, replacing a manual login flow with a single secure sign-in path.
- Moved session sync into web workers, keeping the main thread free for UI on long test sessions.

Full-Stack Software Engineer — Ressolve S.A.S (Cartagena, Colombia — Remote) *Jun 2020 – Sep 2021*

- Modernized ~30 legacy Vue.js components, cutting page interaction time in the main app.
- Implemented i18n in Angular applications, enabling the product to ship in 3+ languages.
- Improved state management patterns across the frontend, reducing duplicated logic across 15 modules.

Lead Full Stack Engineer — Premium Care Plastic Surgery (Cartagena, Colombia — Remote)
Mar 2018 – May 2020

Full Stack Engineer (PHP, Javascript, AWS) — Blinsoft Technologies (Cartagena de Indias, Colombia)
Jan 2016 – Jul 2018

EDUCATION

B.S. in Systems Engineering (Ingeniero de Sistemas) — Fundación Universitaria Tecnológico Comfenalco, Cartagena

LANGUAGES

Spanish (Native) | English (Professional Working Proficiency — Full-time academic immersion at CLLC, Ottawa, Canada)