# LEONARDO ENRIQUE CORREA NAÑEZ

Fullstack Software Engineer — Backend & AI Specialist


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## PROFESSIONAL SUMMARY


Computer Engineering student (8th semester) and full stack developer with production experience building distributed, multi-tenant systems for real clients in regulated sectors (healthcare, pharmaceutical). Backend-focused: Go (standard library), NestJS (TypeScript), Laravel (PHP), FastAPI (Python) and Rust (Axum), with strict modularization (Domain-Driven Design, Hexagonal Architecture, modular monoliths) and relational data modeling. Hands-on with third-party platform integration (Meta Graph API — WhatsApp Business, Messenger, Instagram Business), AI API integration (OpenAI) and AI-assisted development workflows, applied security (HMAC signature verification, per-tenant credentials, session hardening, audit trails), real-time messaging over WebSockets, and reliability engineering (retries, persistent failure queues, deduplication, graceful shutdown). Advanced English (C1).


## PROFESSIONAL EXPERIENCE

### **Botinfy LLC —** Full Stack Developer (Backend & AI focus) — **Dec 2025 – Present**

Client platforms delivered end to end: architecture, backend, integrations, security and deployment. Sustained pace of **152 commits and 54 merged Pull Requests across 6 repositories in a 3-week period**, with Conventional Commits, thematic branches and CI/CD checks.

**Multi-tenant Meta Webhook Gateway (Go)** *— service built from scratch*

- Designed and built a routing service that receives every webhook of a single Meta App (WhatsApp, Messenger, Instagram) on one URL and dispatches each event to the correct client CRM, using the **Adapter pattern** to decouple platforms.
- Implemented **HMAC-SHA256 signature validation** (`X-Hub-Signature-256`) over the raw body, plus the gateway's own outbound signature with one secret per client.
- Built **asynchronous forwarding with retries** in a dedicated goroutine, backed by a **persistent on-disk failure queue** (`.jsonl`) with automatic and on-demand redrive, and **event deduplication** to absorb Meta's retries without double delivery.
- Enforced **strict multi-tenant isolation** with per-platform identifier maps, preventing cross-client leakage from numeric ID collisions; added payload splitting and re-signing when Meta batches several clients into one POST.
- Delivered **per-tenant message sending** via Embedded Signup onboarding and per-client tokens, removing any need to share the App's global token.
- Added hot reload of the client table under locking, an admin API, in-memory metrics with a `/stats` endpoint, request-ID middleware, health checks and **ordered graceful shutdown** (drains in-flight forwards) for zero-loss redeploys.
- Shipped with **zero external dependencies (Go standard library only)**, Docker/Docker Compose, GitHub Actions deploy checks, a self-run security audit and full contract documentation for external integration teams.

**Reino Aromas — Omnichannel CRM (Laravel + Vue)**

- Built the **real-time messaging layer** with Laravel Reverb and broadcasting: live inbox over WebSockets and a persistent **Kanban ticket board** with live drag-and-drop between agents.
- Integrated the **Meta Graph API**: WhatsApp, Messenger and Instagram Business webhooks, token exchange, profile resolution (real name and picture) and WhatsApp coexistence support.
- Modeled `MetaAccount` / `MetaAccountStatusService` with configuration precedence (database over `.env`) and a full lifecycle controller (index / exchange / verify / destroy).
- Implemented a retry mechanism for failed messages (API endpoints + console command) and **automated MySQL backups** with rotation, integrity verification and a documented restore procedure.
- Diagnosed and fixed a false-positive "Live" status by verifying the actual socket instead of the build config, with resync on reconnect; fixed Instagram Business webhook 403s and payload field mapping.
- Fixed contact scoping (data isolation), added configurable date-range reporting and dark mode; owned Reverb service management inside the deploy process.

**Trinita — Pharmaceutical e-commerce (Next.js 16 + Supabase)**

- Built catalog and product detail (unit pricing, add-to-cart from the grid, breadcrumbs, attribute table), delivery logic with in-store pickup, an animated mini-cart with touch gestures, persistent search and a homepage carousel.

- Fixed **WCAG contrast failures** (badge 2.79:1, links 4.42:1 raised to conformant values), touch targets, typography and mobile layout; added missing UI states (skeletons, error screens, 404) without layout shift.
- Wrote unconventional automated tests as a safety net: color-contrast tests, menu iconography tests and regex validation of linguistic consistency, on top of **Playwright E2E and Vitest** with V8 coverage.

**Herbaplant Platform — Security hardening and audit (NestJS + Next.js)**

- Built an **audit system**: system-write logging plus access/login history, later refactored into a single unified trail for compliance.
- Hardened authentication by migrating the session token to an **`httpOnly` cookie** with a middleware guard, moved session verification to the backend instead of trusting client state, and updated vulnerable dependencies.
- Found and fixed a **cross-seller data leak** (the orders module exposed the seller hash and other sellers' orders) and corrected foreign keys in multi-supplier order splits.

**Los Sauces — Internal clinical platform (NestJS + TypeORM)**

- Built a recent-activity dashboard verified against `AuditLog` (real data, not mocked), performed a controlled module deprecation and configured per-service port exposure in Docker Compose.

### Autonomous and Organizational Projects — Fullstack Software Developer

**Jan 2023 – Nov 2025**

- **Herbaplant Traceability Platform (React 19 + NestJS + Supabase):** designed and implemented the architecture of a centralized sanitary and commercial traceability platform — reactive React 19 + Tailwind CSS panel and a NestJS backend on Supabase (PostgreSQL) for biological control and user authentication.
- **Los Sauces Clinical Ecosystem (NestJS + Next.js 16):** structured a DDD-based modular monolith and designed an asynchronous **ETL engine** (`@nestjs/schedule`) to transactionally sync medical records from a legacy SQL Server database into PostgreSQL, cutting client-side latency.
- **Botinfy Auth — High-security authentication microservice (NestJS 11 + Supabase):** RBAC access control with WhatsApp OTP under TTL in Redis, rate limiting, anti-enumeration policies and cryptographic JWT rotation (jti rotation).
- **Pickop — Multi-tenant restaurant SaaS (Next.js 15 + Supabase):** domain-driven structure with an API decoupling flow based on data mocks and Zod environment validation, covered by Vitest integration tests.
- **Encuentralos — Emergency reunification PWA (React + TypeScript + Vite):** mobile-first PWA with an offline local storage queue for automatic resubmission, plus Supabase Edge Functions and RLS rules protecting sensitive user data from scraping.
- **MAHLE Dayton — Industrial MES monitoring (NestJS + Angular + MySQL):** production-line optimization platform with mathematical logic for machinery efficiency (OEE) and defect rates, validated through white-box testing.

## TECH STACK & SKILLS

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| **Languages** | Go · TypeScript · JavaScript · PHP · Python · Rust · SQL (PL/pgSQL, T-SQL) · Java · C# · C++ · Bash · PowerShell |
| **Backend** | Go (standard library) · NestJS 11 · Laravel 13 · FastAPI · Axum.rs · Node.js / Express · TypeORM · Eloquent |
| **Frontend** | Next.js 15/16 (App Router) · React 19 (+ React Compiler) · Vue 3 · Angular · Vite 8 · Tailwind CSS 4 · Recharts · AlpineJS |
| **Real time** | WebSockets · Laravel Reverb · Laravel Echo · Pusher protocol · broadcasting |
| **Data** | PostgreSQL · MySQL · SQL Server · Supabase · Redis · MongoDB · SQLite |
| **Security** | JWT (jti rotation) · Passport · Laravel Sanctum · bcrypt · HMAC-SHA256 · `httpOnly` cookies · Helmet · OAuth / Meta Embedded Signup · per-tenant API keys · RBAC · rate limiting · OTP |
| **AI & APIs** | OpenAI API · AI-assisted development workflows (agents, MCP tooling) · Meta Graph API (WhatsApp Business, Messenger, Instagram Business) · webhooks · Stripe / PayPal · HubSpot · Twilio |
| **Testing** | Playwright (E2E) · Vitest · Jest · Supertest · PHPUnit · white-box testing · accessibility and contrast testing · code coverage |
| **DevOps** | Docker · Docker Compose · GitHub Actions · GitLab CI/CD · Nginx · Tilt · pnpm workspaces · persistent volumes · backups with rotation and verification · QEMU (ARM64) · FFMPEG |
| **Quality** | ESLint · Prettier · Biome · Laravel Pint · strict TypeScript · Conventional Commits · OpenAPI/Swagger · API contract documentation |
| **Competencies** | Hexagonal Architecture · Domain-Driven Design · modular monoliths · multi-tenant design with strict data isolation · explicit API contracts · asynchronous job queues · idempotency and event deduplication · guaranteed delivery with retries and persistent queues · graceful shutdown · partial-failure recovery · applied security auditing · WCAG accessibility · branch/PR workflow and incremental delivery |

## EDUCATION

**Computer Engineering (8th semester)** — Universidad José Antonio Páez, Valencia, Venezuela **01/2023 – Present**
Focus on complex algorithms, advanced databases, networking, computer architecture and operating systems.

**High School Diploma** — U.E. Generalísimo Francisco de Miranda **09/2017 – 08/2022**
Overall GPA 17.31/20.

**English Certification C1 (Advanced / Professional)** — Tuniversia, Bogotá, Colombia **03/2020 – 03/2021**
Advanced performance in conversation, academic writing and technical translation.

## OTHER WORK EXPERIENCE

**Vehicle Sales Representative** — Automóviles 2000 VIP **06/2024 – Present**

- High-value sales negotiation based on detailed customer profiling.
- Persuasion, effective communication and fast objection handling.

**Content Writer & Virtual Assistant** — Freelance **04/2023 – 03/2024**

- Persuasive advertising and informational writing in English and Spanish.
- Direct support to international clients (bilingual EN/ES), streamlining communication flows.

## COMPLEX ENGINEERING PROJECTS

**windeingio (Modular Enterprise SaaS)** — Laravel platform with subscription billing (Stripe/PayPal), AI APIs (OpenAI), asynchronous video processing (FFMPEG) and HubSpot CRM synchronization.

**Coworking (Polyglot Microservices)** — Distributed system of 3 independent services: role management (Python/FastAPI), billing (Node.js/Express) and bookings (Rust/Axum), orchestrated with Docker Compose and distributed authentication based on local JWT signature validation.

**CoruscantOS & EndorOS (Conceptual Operating Systems)** — Conceptual OS base written in Rust for restricted environments (`no_std`), using modular workspaces, Hexagonal Architecture and ARM64 compilation emulated in QEMU with an embedded mobile web interface (Vite + WebKit + GTK).

**task-tracker (Rust CLI Tool)** — Robust command-line application in Rust with local JSON relational storage via Serde and integrated unit test coverage.

**Transport-Repo (Python Optimization)** — Python implementation of the Hungarian Method for optimal resource assignment in logistics transport problems.