

CARLOS ANTONIO MORALES SANDOVAL

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EDUCATION

TECNOLÓGICO NACIONAL DE MÉXICO, CAMPUS ACAPULCO
B.Sc. in Computer Systems Engineering

Acapulco, Mexico
Graduated 2026 — degree in process

EXPERIENCE

APLEEEKS

Full-Stack Developer, Professional Internship

Mexico
January – March 2026

- Built an AI chat system that answers queries based on the company's own documents, using ChromaDB as the vector store for relevant information retrieval.
- Implemented role-based access control (master, admin, client) and an admin panel that lets end users configure the system without technical intervention.
- Took part in requirements analysis, technical solution design and system documentation (Express, Vue, ChromaDB).

PROJECTS

Ticketing System — High concurrency with zero double-booking

Go + PostgreSQL + RabbitMQ

- Built a seat reservation system that guarantees the same seat is never sold twice under concurrent requests, using atomic transactional locks in PostgreSQL.
- Designed the backend with hexagonal architecture in Go: the domain does not depend on PostgreSQL, Redis, RabbitMQ or HTTP — everything goes through interfaces. RabbitMQ regulates processing throughput via a worker pool and Redis automatically releases unpaid reservations. Nuxt frontend updated live over WebSocket.

Chrono — Real-time service status monitor

FastAPI + asyncio + WebSockets

- Developed a system that automatically detects status transitions (healthy / degraded / down) across monitored services, opening and closing incident records with their exact duration.
- Architected the system as 3 decoupled processes: an async Python worker that never touches the database directly, a FastAPI backend as sole owner of the schema, and a Vue 3 frontend updated live over WebSocket.

Trenchcoat — 100% local AI chat

Ollama + Stable Diffusion

- Designed a chat application that runs entirely on self-hosted infrastructure — with no dependency on cloud AI APIs — combining a local LLM via Ollama for text/code and Stable Diffusion for image generation within the same conversation.
- Implemented an intent classifier that automatically decides whether a message calls for text, a new image, or an edit of the previous one. FastAPI + SQLAlchemy backend with streaming over Server-Sent Events; Vue 3 + TypeScript + Pinia + Tailwind CSS frontend.

Audit CV — AI-powered candidate screening

FastAPI + LangChain + DeepSeek

- Built a CV analyzer that compares each candidate against a job opening and returns a score, a requirement-coverage percentage and a breakdown of matched and missing skills, orchestrating DeepSeek through LangChain.
- Designed prompt-enforced consistency rules so that the score, the coverage and the displayed reasoning always tell the same story to the user. Full stack containerized with Podman and Nginx as reverse proxy.

SKILLS & LANGUAGES

Technical: Python, JavaScript, TypeScript, Go, FastAPI, NestJS, Express, Vue 3, Nuxt 3/4, Tailwind CSS, PostgreSQL, Redis, RabbitMQ, Supabase, ChromaDB, WebSockets, Podman, Docker Compose, Git, Linux

Languages: Spanish (native), English (basic, actively improving)