

Santiago Vázquez Villarreal

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Summary

Software engineer designing and shipping production systems across multi-tenant SaaS and embedded platforms. Reduced client onboarding time from 14 days to under 72 hours by redesigning deployment architecture. Focused on building reliable, scalable product infrastructure with long-term maintainability in mind.

Experience

CityFront AI

Full Stack Engineer

Remote (Dallas, TX)

Jan 2025 – Present

- Designed and shipped 4 production applications (web dashboards, mobile apps, embeddable AI chat widget) adopted by municipal clients for resident-facing services.
- Architected and built “AskEcho,” a multi-tenant embeddable chat platform enabling municipalities to deploy AI-driven resident support with isolated configurations from a shared codebase.
- Redesigned the deployment model into a configuration-driven architecture, reducing client onboarding time from 14 days to under 72 hours.
- Structured a pnpm monorepo supporting parallel client environments while preventing configuration drift and duplication.
- Defined service boundaries and API contracts across frontend and backend systems to support rapid feature iteration without breaking tenant isolation.
- Implemented automated E2E testing (Playwright) and CI/CD pipelines, increasing test coverage to 98%+ and reducing production regressions.
- Mentored a junior developer through code reviews and pair programming, guiding progression from frontend tasks to full-stack feature ownership.
- Collaborated directly with product and sales to scope features under tight timelines, balancing release speed with long-term system maintainability.

John Deere

Embedded Software Developer Intern

Monterrey, NL

Feb 2024 – Aug 2024

- Implemented onboard diagnostic alerts in C++ for embedded tractor systems to detect early indicators of mechanical failure in production equipment.
- Contributed to 13 embedded software release bundles deployed across sprayer and planting platforms.
- Optimized memory-constrained C++ modules and validated functionality through hardware-in-the-loop testing in production-aligned environments.

Selected Project

Wireless Pick-to-Light System (Coppel Capstone)

Project Lead

Monterrey, NL

Mar 2025 – Jun 2025

- Led the design and prototype of a wireless Pick-to-Light system using ESP32 modules and MQTT-based communication.
- Built backend services (FastAPI + PostgreSQL) to coordinate real-time communication between hardware modules and warehouse workflows.
- Modeled component-level cost structure and reduced projected hardware and installation costs compared to the legacy wired vendor solution.
- Simplified device interaction to a single LED + button interface to reduce operational friction for warehouse staff.

Education

Tecnológico de Monterrey

B.S. Innovation and Development Engineering (GPA: 4.0)

Monterrey, NL

Aug 2021 – July 2025

IÉSEG School of Management

Exchange Program: Business & Innovation (GPA: 4.0)

Lille, FR

Aug 2024 – Dec 2024

Technical Skills

- **Frontend:** React, Next.js, SvelteKit, TypeScript
- **Backend:** FastAPI, Node.js, PostgreSQL
- **Cloud/DevOps:** AWS (Lambda, DynamoDB, AppSync), Docker, CI/CD
- **Systems:** C++, Embedded Systems
- **Languages:** English (Native), Spanish (Native), French (Working)
- **Interests:** Rock climbing, music performance, long-form writing