Alberto Lopez

Operations Software Engineer: ERP, Warehouse & Manufacturing

Eager worker, teamwork enjoyer, good practices first, technology second. Let's write some technical docs. Vim-er.

Seven years in software, nearly five of them in client ERP work. ERP extensions, e-commerce / EDI / 3PL integrations and desktop tools for 23 companies in 7 sectors. I write the requirements first, build from them, and work daily with AI coding agents (Claude Code).

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EXPERIENCE

Associate Engineer — ILC, LLC.

Location: Irvine, California (Fully Remote) **Period:** Dec 2021 – Present (nearly 5 years)
Stack: C#, .NET (6 → 10), JavaScript, Java, SQL, WPF, Azure Functions

Led the development and implementation of 70+ deliverables across 43 repositories for 23 client companies in 7 sectors, focusing on data processing and management within ERP systems, primarily Fishbowl Inventory. 2,740+ commits and an estimated 2,500–4,000 coding hours, with commits in 87% of all working weeks.

Selected work:

- **Now:** a multi-store Shopify ↔ ERP integration, built with tests and documentation from day one (Sep – Oct 2026).
- **ERP front-end modules:** 40 Cloud Pages tools (32 built from scratch) for manufacturing, distribution, pharma and food clients, including a four-tool manufacturing and printing toolkit maintained for 2.5 years and a large operations and analytics portfolio for a pharmaceutical distributor (2022–2026).
- **Desktop applications:** a WPF catalog manager that lets a team bulk-edit an e-commerce catalog safely (2 years, 350+ commits), and a pack-and-ship station that replaced manual carton and label work on a shipping floor.
- **Spec to production:** took a written specification to a complete labeling and printing system with live printer discovery and previews, the largest single code contribution (about 37k lines).
- **Integrations (21 Azure Functions projects):** Shopify ↔ ERP (orders, shipments, inventory, catalog, multi-store), X12 EDI over SFTP (850, 856 and 997, plus critical 845, 940 and 945 documents processed from external SFTP repositories directly into Fishbowl), 3PL and warehouse exchanges, and pharma DSCSA track-and-trace.
- **Warehouse suite sprint:** a picking, returns (RMA) and shipping suite delivered in about a month (184 commits).
- **Standards:** authored the team-wide Cloud Pages Development Specification (v1.3.0), QA documentation and specs written before builds. Typed commit messages went from 0% (2022–2024) to 84% (2026).
- **Internal tools:** a NuGet library for accessing internal Fishbowl data (request mocking, web scraping, CodeDomProvider), a console tool for generating custom JS configuration files, and a Web UI bridge for Java Swing that replaced legacy plugin development.

Responsibilities: As the lead engineer, responsible for gathering client requirements, converting them into use cases, and coordinating with both clients and teammates to resolve technical and domain-related challenges. Development progress was documented through daily meetings. Since 2025, works with a coding agent (Claude Code), guided by project instruction files and written specs, on client integrations and ERP tools.

Lead Full Stack Engineer — Hightek

Location: Xalapa, Veracruz (On-Site) **Period:** Aug 2020 – Dec 2021 (1 year & 4 months)
Stack: Vue, Laravel, Java, SQL Server, Perl

- Developed a front end proposal for a project revamp (**MedicalFit**), including design of front end prototypes and implementation of functional features for a project with more than fifty use cases, connected to a Java Spring backend.
- Led the execution and maintenance of a new set of user-requested requirements in a production Laravel project (**Saticatver**): added new features, managed Laravel controllers, and added dynamic, open-to-change Vue components.
- Boosted system performance with improved prop management and by attaching stored procedures and views when needed.
- Both projects were thoroughly documented (deployment, policy for prop management, common mistakes in project set-up for newcomers).

Lead Quality Assurance Engineer — Universidad Veracruzana

Location: Xalapa, Veracruz (On-Site) **Period:** May 2019 – Dec 2019 (7 months)

- Designed and executed a plan to validate and verify client requirements for end users.
- Produced a report to revise features, fix bugs, and document incorrect requirements.

AI-ASSISTED ENGINEERING

Tools: Claude Code, OpenAI APIs · **Daily agent use since:** 2025

- **Coding agents in daily work:** Uses Claude Code day to day on client and personal projects.
- **Harness management:** Sets up the environment an agent works in (project instruction files such as `CLAUDE.md`, persistent memory notes, permissions, reusable skills and tool connections) so results repeat from session to session.
- **Requirements as agent input:** Turns client needs into specs, acceptance criteria and handoff documents an agent can build from, and wrote the team-wide Cloud Pages development specification (May 2026). Rooted in formal requirements training: Software Engineering degree, requirements-specification audits (IEEE 830, JAD sessions) and a QA lead role.
- **Building with LLM and document-AI APIs:** Almacify (see Projects) uses OpenAI, Azure Document Intelligence and Google Document AI.

EDUCATION

Software Engineering — Universidad Veracruzana

Location: Xalapa, Veracruz **Period:** Aug 2016 – Dec 2020

Degree focused on product quality and life cycle: from client interviews, requirement analysis, and requirement specification, to solution design, unit testing, product-solution development, and validation & verification of features for quality control, ending in deployment.

SKILLS

Core stack (daily use in client work)

- **Languages:** C# / .NET (6 → 10), JavaScript (ES6), HTML & CSS, SQL (MySQL, PostgreSQL, SQL Server), Java
- **ERP & platforms:** Fishbowl Inventory (Cloud Pages, plugins & SDK), Shopify (REST & GraphQL), Azure (Functions, queues & timers, webhooks)
- **Integration:** EDI X12 (850/856/997, 845/940/945, Edifier), SFTP/FTP exchange, 3PL and warehouse integrations, email automation, API design
- **Desktop & UI:** WPF / MVVM, Kendo UI data grids, label printing (ZPL), CSV / Excel / PDF import and export
- **Data formats:** XML, JSON, Protocol Buffers, EDIs

Also used (personal projects and earlier roles)

- **Languages:** Python, Go, Elixir, TypeScript, PHP, Dart, Perl, Lisp
- **Frameworks:** Django, Go Fiber, Phoenix, Laravel, Vue, Flutter
- **Infrastructure:** Docker (basics), gRPC, RMI, MongoDB

AI & Agents

- Agentic development with Claude Code
- Agent harness management: instruction files (CLAUDE.md), memory, permissions, skills, tool connections
- Requirements and specification writing as agent input
- OpenAI APIs, Azure Document Intelligence, Google Document AI, OCR

Engineering Practices

- Unit and integration testing, technical documentation and specs written before code
- Software project planning, client requirements specification & management, test specification and execution
- Design patterns (when needed), good programming practices, TDD, ICONIX, PSP management
- CI/CD, DevOps familiarity; Git workflow with Conventional Commits enforcement; SVN
- Server management and Perl scripting on Linux and Windows; Accelo / Jira / Trello

PROJECTS

Almacify *(Personal Project, Sep 2024 – Mar 2025)*

Stack: WPF (front end), Azure Functions, OpenAI, Azure Document Intelligence, Google Document AI, OCR, Vercel API

Developed a document processing solution for the State's Auditing Organization, capable of handling tens of thousands of government-issued documents. The system extracts and consolidates data into a centralized database that links invoices, contracts, financial statements, expenses, and identification records (INE, DNI, CURP, etc.) to the auditing institution. The database enables advanced searches by name, city, location, address, bank account, or any relevant identifier, allowing efficient document retrieval and cross-referencing. The backend processes at least 10,000 requests daily, ensuring high-performance data access and analysis.

BuscaXalapa *(Personal Project, 2019 – present)*

Stack: Golang (Fiber) back end, HTML/CSS/JavaScript front end; now migrating to Phoenix with Elixir (full stack)

Developed a SaaS using Golang (Fiber) as a backend, processing payments with the MercadoPago SDK. Built first as a Django site (2019), then rebuilt in TypeScript, Go and Elixir/Phoenix, comparing stacks along the way. The Go version was redone because the backend framework went through a design overhaul that made the project unmaintainable, and the MercadoPago SDK was also deprecated. It is currently being migrated to Phoenix for full stack, using the MercadoPago API as the payments middleware.

Instagram–WhatsApp Clone *(School Project)*

Stack: Flutter (front end), Django (back end for posts, favorites, friends), Golang (gRPC back end for real-time messages)

Directed an interview with a client to record requirements, analyzed them, developed a requirements specification document, and designed a solution. Built around JWT as secure middleware between gRPC (Golang), Django, and the Flutter front end, using Docker as the container for deployment.

Requirements engineering *(School Projects)*

- **Formal audition of an RSE (requirements specification):** designed and directed formal interviews and reviews with the business analyst team, resulting in a report used to fix functional requirements before development started.
- **Computer Inventory System:** directed interviews and JAD sessions with clients and proposed a solution using IEEE Std 830 as a guide.

Other school projects

- **University Social Activities Management System:** Django and Bootstrap, built from an RSE document for a low, steady volume of users.
- **Tutoring Management System:** Java Swing with JDBC, pure SQL protected against injection, DAO pattern, built for old hardware.
- **Multiplayer Snake Game:** JavaFX and Java RMI, designed around efficient multi-user communication.

LANGUAGES

- English
- Spanish

Updated November 2026.