

# JUAN JOSE ALVARADO LAGUNES

## Full-Stack Software Developer

Veracruz, Mexico · Remote / Hybrid / Freelance

Email: [lajjmex117@gmail.com](mailto:lajjmex117@gmail.com)

Portfolio: [universotjsx.com](https://universotjsx.com) · Professional profile: [universotjsx.com/en/professional-profile/](https://universotjsx.com/en/professional-profile/)

## PROFESSIONAL SUMMARY

---

Full-stack software developer with projects in production. I built SICE, the school enrollment and records system currently in use at a Mexican public vocational training centre, using C# / .NET 10, ASP.NET Core, WPF and PostgreSQL. I have published websites on custom domains with continuous deployment (CI/CD GitHub → Netlify), progressive web apps with Next.js and Supabase, and Windows desktop tools. Focused on maintainability, applied security, accessibility and user experience. I reply to emails within 24 hours. Native Spanish speaker with advanced English.

## EXPERIENCE

---

### Software Developer — SICE, CECATI 106 Los Cabos (educational institution)

2026 — Present

*School Enrollment and Records System · Internal system in institutional use*

- Built end to end the system that replaced the paper enrollment process: ASP.NET Core API with 52 endpoints, public Razor Pages portal and a WPF (MVVM) desktop application for the Records Office.
- Digital student record with a 12-state workflow, transactionally assigned institutional folio and atomic seat reservation preventing overbooking.
- Entity Framework Core over PostgreSQL (Supabase) with SQLite contingency mode; Docker and Render deployment; Windows installer with Inno Setup.
- Security: AES-256 encrypted backups (Encrypt-then-MAC, PBKDF2), magic-byte file validation, role-based access control and a full audit log.
- Layered modular monolith (10 projects, domain layer with no external dependencies) with 47 automated tests passing. 18,367 lines of code.

### Web Developer — CECATI 106 (educational institution)

2026 — Present

*San José del Cabo, Mexico · Published site: [cecati106loscabos.netlify.app](https://cecati106loscabos.netlify.app)*

- Replaced the in-person enrollment process with an online flow wired into the school's records system: a 6-step form with 57 controls and up to 31 columns per record, capturing the full official SI-01 record.
- CURP validation using the RENAPO check-digit algorithm, document verification by binary signature (magic bytes) and in-browser image compression with Canvas (90% smaller), multiplying the storage plan capacity by 20.
- Virtual assistant with a custom NLP engine: 33 intents, 310 keywords, hand-written Levenshtein distance and answers backed by live catalog data from the database.
- Supabase (PostgreSQL, PostgREST and Storage) secured with Row Level Security: public submission allowed, reads and downloads denied; verified in production.
- Built with vanilla HTML, CSS and JavaScript: no frameworks, no bundler and zero npm dependencies. WAI-ARIA accessibility with dark mode, high contrast and text scaling.

### Full-Stack Developer — Instinto Guardian (published personal project)

2026 — Present

*Animal protection and human safety PWA · In production on a custom domain: [instintoguardian.com](https://instintoguardian.com)*

- Built the full application with Next.js 16, React 19 and strict TypeScript on top of Supabase (PostgreSQL, Row Level Security, Realtime and magic-link auth), with 26 versioned SQL migrations.
- Features: emergency mode, configurable action button (Web Audio API alarm, local recorder, chained SOS), verified legal guidance, first aid, mental health tools, MapLibre GL community map and a social layer with chats and groups.
- Custom algorithms: a deterministic assistant that answers with no AI and no connection, an in-house UI translation engine for 130+ languages with strict privacy rules, and phone-to-phone file transfer over animated QR using fountain codes (Luby Transform).
- Installable PWA with a custom service worker, offline support and a deferred sync queue in IndexedDB. Optional in-browser AI running on WebGPU with explicit user consent.
- Quality: 403 unit tests with Vitest, 53 end-to-end tests with Playwright and automated WCAG 2.1 AA accessibility auditing with axe. 55,852 lines of TypeScript across 426 files and 61 routes.

### Desktop App Developer — Auralis Mastering Pro and Visualizer Studio (own products)

2025 — Present

- Auralis: audio mastering engine with AI-assisted analysis (integrated LUFS, True Peak, LRA, spectral balance), streaming profiles and a licensing system. In real use for the KIDJSX discography.
- Visualizer Studio: MP4 music video generation (H.264 + AAC 1080p) with FFmpeg; local-first architecture with no telemetry.

**Software Developer — Personal projects and freelance**

2024 — Present

Veracruz, Mexico

- Web, mobile and desktop solutions: authentication, databases, REST APIs, local storage, deployment with custom domain, DNS and HTTPS.
- Software technical support and maintenance on Windows machines: OS installation, backups, drivers, error diagnostics and corrective maintenance.

SELECTED PROJECTS

- **SICE — School Enrollment and Records System** — internal system in use at CECATI 106 Los Cabos: online enrollment, digital student records, encrypted backups and audit logging. C#, .NET 10, ASP.NET Core, WPF, EF Core, PostgreSQL, Docker.
- **CECATI 106** (cecati106loscabos.netlify.app) — institutional website with online enrollment wired into the records system: 6-step form, CURP validation, custom-NLP assistant. Vanilla HTML, CSS and JavaScript on Supabase, zero dependencies.
- **Instinto Guardian** (instintoguardian.com) — animal protection and human safety PWA in production: offline AI-free assistant, verified legal guidance and community map. Next.js 16, React 19, TypeScript, Supabase, MapLibre; 456 automated tests.
- **Universo TJSX** (universotjsx.com) — one-page portfolio in production on a custom domain with CI/CD, a custom offline chatbot, a realtime visit counter on Supabase and SEO. HTML, CSS, JavaScript.
- **Auralis Mastering Pro** and **Visualizer Studio** — Windows desktop tools in real use (internal products). Python, audio DSP, FFmpeg.
- **Horror game for Android** — video game in development with Unity and Android Studio. Currently a prototype, not yet released.

TECHNICAL SKILLS

**Primary use:** C#, .NET 10, ASP.NET Core, WPF, Entity Framework Core, JavaScript, TypeScript, React, Next.js, HTML, CSS, Python, Flutter, PHP, SQL (PostgreSQL, MySQL, SQLite, SQL Server), FFmpeg, Netlify, Git, GitHub, CI/CD.

**Hands-on experience:** Unity, Android Studio, Kotlin, Jetpack Compose, Tailwind CSS, Node.js, Flask, Firebase, Supabase (Row Level Security, Realtime, Storage), Docker, Render, PWA and service workers, IndexedDB, MapLibre GL, REST APIs, JWT, applied cryptography (AES-256, PBKDF2), Tauri, AI integration, DNS and HTTPS.

**Quality and accessibility:** testing with xUnit, Vitest and Playwright; WCAG 2.1 AA accessibility and WAI-ARIA; Content Security Policy and applied security.

**Familiarity:** Java, Rust, AWS, VPS, MVVM.

EDUCATION

**Computer Systems Engineering — Instituto Tecnológico de Veracruz**

2019 — 2025

LANGUAGES

Spanish: native · English: advanced