

Jonathan David Cortés Castaño

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Full-stack developer with an engineering mindset and strong logical thinking, experienced in designing, building, and deploying end-to-end solutions (frontend + backend) for real products, from React and TypeScript interfaces to REST APIs and Java/Spring Boot backends with a modular, microservices-style layered architecture, with both SQL (PostgreSQL) and NoSQL (Redis, Firebase) databases. I apply solid object-oriented design and data-structures fundamentals, good Git practices, unit/integration testing with attention to edge cases, code review, and Docker container deployments, always writing clean, maintainable, and scalable code. I use AI coding tools (Claude Code) daily to increase development velocity without sacrificing code quality, and have a clear point of view on when they help and when they don't. I take ownership of features end-to-end, mentor and coach less-experienced students as a Teaching Assistant, communicate technical ideas clearly and directly, and seek a pragmatic balance between speed and quality both in cross-functional teams and independently. Currently pursuing a degree in Systems Engineering at Universidad Icesi.

PROFESSIONAL EXPERIENCE

Teaching Assistant — Algorithms and Programming II, Universidad Icesi

February 2026 - Present

Cali, Colombia

- Improved code quality for 100 students per semester by introducing structured code review checkpoints on GitHub, enforcing good coding patterns, testing discipline, layered architecture concepts, object-oriented design, and the MVC pattern in Java assignments, while mentoring and coaching students through clear, direct technical feedback.
- Reduced student confusion around fundamental data structures by designing and teaching hands-on labs on linked lists, hash tables, stacks, queues, and binary search trees, achieving a 40% increase in the assignment pass rate among 100 students per semester.

Frontend Developer — Seguridad Industrial Cárdenas SAS

October 2022 - February 2026

Cali, Colombia

- Took ownership of the project end to end: gave the company its first online presence by designing, building, and deploying a responsive, cross-browser-compatible marketing website from scratch, published on a custom domain with DNS configuration and CDN-backed delivery via Vercel.
- Reduced deployment time from manual to automatic by configuring a CI/CD pipeline integrated with GitHub via Vercel, taking every merge to main to production without manual intervention.

English Tutor — EL Center, Universidad Icesi

November 2024 - Present

Cali, Colombia

- Improved oral fluency for 110 students per semester through one-on-one conversation practice and structured academic support, focused on students struggling in their English courses.

PROJECTS

Full portfolio: <https://portfoliotm143.vercel.app/>

Personal Portfolio

- Localized personal site (English, Spanish, Portuguese) with a Matrix-style animated hero section, a draggable technology filter powering a live project grid, and GSAP-animated sections.
- Each project page is generated from Markdown via Astro content collections with Zod-validated frontmatter, using native View Transitions to navigate between the grid and the detail view.

Astro, React, TypeScript, Tailwind CSS v4, GSAP, deployed on Vercel

Blog Manager

- Designed a blogging REST API in Java Spring Boot with a modular, microservices-style layered architecture (controller-service-repository) and basic DDD principles: JWT (access and refresh tokens), role-based access control (COMMON/MODERATOR/ADMIN) with per-post permission grants, centralized error handling, and

unit/integration testing with Testcontainers against a real PostgreSQL instance covering key edge cases, following good quality practices.

- Packaged the application with Docker and deployed it to Render, taking the API from a local-only environment to a live production environment.

Java, Spring Boot, Spring Security, JWT, PostgreSQL, JPA/Hibernate, Testcontainers, OpenAPI/Swagger, React, TypeScript, Vite

Job Search Automation

- AI-powered n8n pipeline that ingests remote job listings from an RSS feed and the RemoteOK API, normalizes them through an LLM chain, and evaluates each one against a candidate profile to identify strong matches.
- Eliminates duplicates with an idempotent upsert in PostgreSQL and sends real-time notifications in parallel via Discord webhook and HTML email.

n8n, Claude Sonnet 4.6, PostgreSQL, RemoteOK API, Discord API, Gmail API

cataLOG

- Multi-tenant e-commerce platform where local businesses manage a catalog and sell online from a shared storefront, with real-time search, infinite scroll, and per-business QR codes.
- Integrated the MercadoPago API with a webhook that confirms payment, creates the order, and decrements inventory atomically; implemented secure authentication (email/password and Google OAuth) with Lucia Auth.

Next.js 14, TypeScript, Drizzle ORM, PostgreSQL, TanStack Query, Tailwind CSS, Zustand

Que Hay Pa' Hacer

- Local events platform where users browse and publish events with images, dates, and locations automatically resolved via the Google Maps Places API.
- Used the Google Maps Places API for automatic geocoding; shared Zod schemas between the database and forms with drizzle-zod, with typed Server Actions handling mutations.

Next.js, React, TypeScript, PostgreSQL (Neon), Drizzle ORM, TanStack Query, Tailwind CSS

Langdle

- Daily Wordle-style puzzle where players guess a language from its linguistic traits, with an admin panel for managing languages, attributes, and the daily schedule.
- Implemented email/password and Google OAuth authentication, with sessions persisting across devices.
- Automated the build and deployment with GitHub Actions CI/CD.

Next.js, React, TypeScript, Node.js, PostgreSQL, TanStack Query, Tailwind CSS

SICSAS

- Corporate site for a fire safety company, with a services catalog mapped to NFPA standards and a filterable equipment catalog.
- Implemented a server-side contact form with dual-layer validation using Zod (client and Astro Actions), delivering messages via Nodemailer and React Email.
- Automated the build and deployment with GitHub Actions CI/CD.

Astro, React, TypeScript, Tailwind CSS, deployed on Vercel

Holidrive

- Mobile app that collects real-time collaborative reports on road hazards (potholes, roadwork, danger zones) on a live map, with photos, filters, and Firebase authentication.

Flutter, Dart, GetX, Firebase (Realtime Database, Firestore, Storage)

TS Env Validator

- Tool that converts a .env file into ready-to-paste Zod validation code, plus typed access and autocomplete for process.env.

Astro, React, TypeScript, Tailwind CSS, Radix UI, Claude Code

Bus Itinerary Optimizer

- Functional engine in Scala that generates and ranks intercity bus itineraries via graph search, with two ranking strategies and correctness proofs by structural induction.

Scala 3, ScalaTest, Claude Code

encryption-zp

- Implementation of Shamir's scheme over a finite field, splitting and reconstructing secrets via Lagrange interpolation with arbitrary-precision arithmetic.

Scala, ScalaTest, Claude Code

EDUCATION

Systems Engineering — Universidad Icesi

2024 - Present

Cali, Colombia

Software Programming Technician — SENA

August 2022 - July 2024

Cali, Colombia

Linguaskill — English C1 Certification (Cambridge Assessment)

June 2024

Cali, Colombia

SKILLS

Programming Languages: JavaScript, TypeScript, Java, Scala, Python

Frontend: React, Next.js, Astro, Tailwind CSS

Backend: Node.js, Express, Hono, Spring Boot

Mobile: Flutter

Databases: PostgreSQL, Supabase, Redis

Other: REST API design and integration, modular/microservices-style layered architecture, object-oriented design and data structures, validation with Zod, testing with edge-case coverage (JUnit, Testcontainers), code review, CI/CD, Drizzle ORM, TanStack Query

Tools: Git, GitHub, Docker, Vercel, Render, Vite, Claude Code (daily AI-assisted development), Google Colab / Jupyter

Spoken Languages: Spanish (native) · English (C1) · Portuguese (B2)