JUAN IDROVO

AI Engineer | Full Stack Engineer (TypeScript, Python)
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Open to roles in the Netherlands and to remote contract work

PROFESSIONAL SUMMARY

AI and full stack engineer who designs, ships and operates production systems end to end. Sole developer of Markatzy (3,000+ commits, ~127,000 lines of TypeScript; multimodal similarity search, OCR pipeline, large language model (LLM) features on AWS Bedrock). Built a Python agent pipeline that processes a law firm's client email with human review (1,379 runs, 2,869 automated tests) and a 20-source data pipeline for AI infrastructure research. Delivered 37,000+ lines of production React and TypeScript at Kriptos. Legal training informs privacy-by-design and compliance decisions.

SKILLS

Languages and frameworks: TypeScript, Python, SQL; Next.js, React, Node.js, tRPC, Prisma, Medusa.js

AI and machine learning: Large language models (Claude via Anthropic API and AWS Bedrock); agentic workflows with human review; retrieval-augmented generation (RAG); embeddings and vector search (Cohere, pgvector); optical character recognition (OCR); prompt engineering

Cloud and data: AWS (EC2, S3, Bedrock); Railway; Cloudflare; Vercel; Docker; systemd; PostgreSQL; SQLite; Redis; pg-boss

Engineering practice: Automated testing (Vitest, pytest); continuous integration and delivery (CI/CD); SonarQube; specification-first development; code review

CERTIFICATIONS

CompTIA Security+ ce | CompTIA | Jun 2026 (valid until Jun 2029)

AWS Certified Cloud Practitioner | Amazon Web Services | Sep 2025

Cybersecurity Professional Certificate | BrainStation (Konrad Group) | Jan 2025

Financial Accounting | Harvard Business School Online | Jul 2022

WORK EXPERIENCE

Founder and Lead Developer

Jan 2023 - Present

Markatzy, Trademark Protection Platform (markatzy.com)

- Designed, built and launched independently a trademark protection platform for the Ecuadorian intellectual property market, in production with a free tier. For a firm with 100 brands, it replaces more than 170,000 manual comparisons per month and narrows results to the conflicts that warrant attorney review.
- Architected the full stack: Next.js, tRPC, Prisma and PostgreSQL with pgvector; two-tier search (Double Metaphone and trigram prefilter, then phonetic, typographic, semantic and visual scoring); pg-boss background workers; an OCR pipeline converting scanned gazette pages into registry records; Claude and Cohere embeddings on AWS Bedrock; Paddle and PayPhone payments. 3,000+ commits and 800+ automated tests in twelve months; SonarQube in CI.

Legal Engineer and IT Lead (Contract)

Oct 2022 - Present

Grace Nelson Attorneys at Law, Cuenca, Ecuador (Remote)

- Designed, built and operate an AI paralegal for the firm's shared mailbox: each client email triggers a sandboxed Claude agent that updates the client file, files attachments, consults a cited knowledge base and drafts an unsigned reply in Outlook for attorney approval. Median 2.2 minutes from email to draft (November 2026); 2.8% failure rate across 1,379 runs.
- Developed the pipeline specification-first in Python (~38,000 lines, 2,869 automated tests): Microsoft Graph polling, a SQLite event queue, sandboxed systemd services and timers, retries, usage limits and health alerting; every deployment gated by the full test suite.
- Built the firm's immigration site, myecuadorvisa.com, from scratch in February 2026: from about 200 Google search impressions a month to 847,000 impressions and 9,270 clicks by November 2026. Also rebuilt the firm's main website in one day, with redirects for every legacy URL.

Frontend Developer and Cybersecurity Analyst (Contract) Oct 2024 - Mar 2026
Kriptos Inc., Miami, FL, USA (Remote)

- Developed the frontend of the Update Manager platform, used by enterprise clients including Latin American banks to deploy and monitor Windows security agents across thousands of endpoints: 37,000+ lines of production TypeScript and React as the main contributor to the core repository, including real-time agent status, automated deployment workflows and role-based access control (RBAC).
- Supported SOC 2 Type II certification by triaging findings from SonarCloud, Amazon Inspector and Hexstrike across 220+ repositories and coordinating remediation with development teams; implemented security fixes in the main frontend (authentication flows, dependency updates, input validation) without delaying feature delivery.
- Reduced pre-commit hook runtime by 50% by testing only changed files (full suite on merge), and restructured the Mock Service Worker (MSW) setup into a schema-defined mock backend, allowing frontend development to proceed ahead of the APIs.

Attorney Associate Apr 2021 - Oct 2022
Grace Nelson Attorneys at Law, Cuenca, Ecuador

- Led the firm's digital transformation: first CRM, automated workflows, and a bilingual website with online payments and appointment booking.

Intellectual Property (IP) Attorney Jan 2022 - Oct 2022
IMBAIP Cia. Ltda., Quito, Ecuador

- Developed scripts comparing the ~1,700 publications in each monthly gazette against client portfolios to compensate for the firm's tooling; this work became Markatzy.

EDUCATION

LLM in Law and Technology, Privacy & Security track (in progress) Aug 2026 - Aug 2027 (expected)
Tilburg University, Netherlands

Privacy and data protection law, cybersecurity law and the regulation of AI.

Post Graduate Program in Cybersecurity Sep 2025
University of Texas at Austin, McCombs School of Business, USA

Executive education, certificate of completion; GPA 4.13/4.33. Network security, modern cyber attacks, security controls, governance, risk and compliance (GRC).

Software Engineering Diploma Oct 2024
BrainStation (Konrad Group), London, United Kingdom

Winner of the Lloyds Banking Group partnership hackathon (fraud detection prototype) and of a scholarship for cybersecurity training.

Abogado (Law Degree, J.D. equivalent) Apr 2021
Universidad San Francisco de Quito, Ecuador

Thesis on central bank digital currencies in dollarized economies. Coursework in intellectual property, technology law and international commercial law.

PROJECTS

signal-watch: AI infrastructure research pipeline 2026
Python data pipeline with 20 collectors (SEC filings, memory prices, Taiwanese and Korean trade data, grid interconnection queues, earnings-call keywords) loading SQLite; weekly scoring of a written investment thesis, reviewed by a sandboxed Claude agent and delivered as an email report; backtest of trading rules against SMH and a fixed control portfolio; Datasette site on a private network; nightly backups to Amazon S3.

La Pampa: e-commerce platform, built and operated end to end 2025 - Present
Next.js storefront and Medusa.js v2 headless commerce backend for an Ecuadorian food producer: catalog, cart, checkout with card and mobile payments, S3 storage and administration dashboard; deployed on Railway with PostgreSQL and Redis.

LANGUAGES

Spanish: native | English: C2