Santiago Lopez de Haro

Software Engineer • Event-Driven & Cloud-Native Architecture

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Summary

Software engineer specialized in **event-driven architecture**, **cloud architecture** and **cloud-native backends** for **highly scalable**, decoupled systems. CTO of Instant Empleos, architecting its AWS platform as an event-driven modular monolith, and developer at BlueBoot, building cloud solutions on SAP BTP integrated with S/4HANA. Final-year Computer Engineering student whose thesis studies EDA, cloud-native architectures and serverless as a cloud-native runtime for event-driven systems.

Core Expertise

- **Event-driven architecture:** asynchronous messaging (AWS SQS, SNS), transactional outbox, idempotent consumers, at-least-once delivery, retries with backoff, reconciliation jobs
- **Cloud architecture:** AWS (EC2, ECR, S3, CloudFront, Route 53, IAM, CloudWatch, SQS, SNS, SES, Bedrock), SAP BTP (Cloud Foundry, CAP, Build Process Automation, Integration Suite), serverless, Terraform, Docker, GitHub Actions CI/CD
- **Cloud-native backends:** Go, TypeScript/Node.js (NestJS), Java, Python, C/C++; modular monoliths and microservices; REST and OData APIs
- **Scalability and data:** horizontally scalable workers with lease-based job claiming, slow dependencies kept off the request path, PostgreSQL schema and query tuning, pgvector, PostGIS
- **Front end:** React, React Native, Flutter, SAPUI5/Fiori

Experience

Instant Empleos — Montevideo, UY
Chief Technology Officer — Mar 2026 – Present

- Architected the platform on AWS as an **event-driven modular monolith** in Go and TypeScript: invoicing, notifications and AI inference run in SQS-driven workers, so slow or failing dependencies never sit on a user's request path.
- Defined the infrastructure as code with **Terraform** (EC2, ECR, S3, CloudFront, Route 53, SQS, IAM, CloudWatch) and shipped containerized services through GitHub Actions CI/CD.
- Built the payment-to-invoicing pipeline: a **transactional outbox** relayed to SQS and idempotent consumers turn every confirmed dLocal payment or refund into exactly one DGI e-invoice, surviving provider outages, redeliveries and redeploys. (case study)
- Designed a personalized job feed with **two-tower embeddings** (Amazon Titan on Bedrock) and pgvector; event-driven workers precompute vectors and match scores, so serving the feed is a single PostgreSQL query. (case study)
- Added AI features on AWS Bedrock (CV parsing, applicant scoring, natural-language interaction) and geospatial pipelines on PostGIS for location-aware search.
- Built an end-to-end test harness that runs every user story against the full platform running locally, so new features ship without regressions.

BlueBoot — Montevideo, UY
Software Developer — Apr 2025 – Present

- Build **cloud-native extensions on SAP BTP** (Cloud Foundry, CAP, Node.js) that add business logic and integrations to SAP S/4HANA.
- Delivered a buyer–supplier procurement portal for an industrial client: CAP and PostgreSQL backend, Fiori front end, multi-level approvals on SAP Build Process Automation, and agreed purchase-order changes synced back to S/4HANA over OData through the Cloud Connector. (case study)

- Built a payment validation and enrichment integration kit on SAP Integration Suite (Groovy, Java).
- Develop web, desktop and mobile applications integrated with the SAP backend.

CodigoDelSur Montevideo, UY
Software Developer Oct 2024 – Apr 2025

- Designed and deployed backend infrastructure on **AWS** with Terraform, Docker and GitHub Actions CI/CD, giving large teams repeatable, secure deployments.
- Owned the design, development and deployment of the backend of a social network project.
- Built modular, production-ready APIs and microservices with Node.js, NestJS, Go, TypeScript and Java, and tuned database schemas for query performance and maintainability.
- Built web, desktop and mobile front ends with React, React Native and Flutter; introduced automated testing, performance profiling and code reviews within Scrum teams.

Consultoria y Gestion Montevideo, UY
Accounting Assistant Jun 2024

- Automated the extraction, cleaning and normalization of financial data from Excel, CSV and internal systems with Python, improving report accuracy and reducing manual work.

Education

Universidad de la República, Facultad de Ingeniería Montevideo, UY
Computer Engineering (Ingeniería en Computación) 2022 – Dec 2026 (expected)

- **Thesis:** Cloud Computing Architectures based on Event-Driven Architecture (EDA) and Cloud-Native Serverless Technologies, a study of EDA, cloud-native architectures and serverless as a cloud-native runtime for event-driven systems.
- Intermediate degree: Computer Systems Analyst (Analista en Computación), awarded Jan 2025.
- One of the top students of the 1000+ student computer engineering class of 2022.
- Research: multi-objective optimization of public transport stops with genetic algorithms (NSGA-II, Java), part of ICSC-CITIES 2025, Puebla, Mexico. (case study)
- Relevant coursework: concurrent and parallel programming, computer networks, computer architecture, databases, algorithms and data structures, numerical analysis, linear programming.

Languages & Certifications

- **Languages:** Spanish (native), English (C1, Cambridge C1 Advanced, 2021)
- **Certifications:** Stanford Online: Databases (SQL); Neural Networks and Deep Learning (Udemy); Java with Spring Boot (Udemy); Docker and AWS (Platzi); Flutter development