

Kevin Ricardo Miranda Sánchez

SOFTWARE ENGINEER

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I care about reliability engineering and event-driven design for regulated financial systems, where idempotency, fault isolation, and audit traceability are first-class concerns.

Professional Summary

Backend engineer with 6+ years designing and operating production systems for regulated financial markets. Specialized in event-driven architectures, distributed workflow orchestration, and reliability engineering on AWS. At GBM, I own mission-critical backend services where I make and defend architectural decisions across the full lifecycle — system design, data modeling, performance tuning, observability, and incident response — with a focus on idempotency, fault isolation, and audit traceability.

Experience

GBM – Grupo Bursátil Mexicano

SOFTWARE ENGINEER

Dec. 2021 – Present

Mexico City, Mexico

AWS Lambda · Step Functions · EventBridge · SQS · API Gateway · RDS PostgreSQL · SQL Server (SSIS / SSRS) · Stripe · PayPal · React · Kibana

- Designed an event-driven document ingestion pipeline (**Lambda + Step Functions + EventBridge + SQS**) that fetches, validates, and reconciles **400–600 tax compliance documents per month** from a regulated government API — idempotent handlers and dead-letter queues guarantee exactly-once processing under provider instability, with per-document **CloudWatch** audit trails enabling full traceability for regulatory review.
- Led the redesign of a capital gains and losses calculation engine (**SQL Server + SSIS**) covering **7,000+ financial instruments** and over a decade of historical trade data — diagnosed systematic data corruption from inconsistent corporate event handling (splits, mergers, price adjustments), enforced idempotent batch recalculation, and added validation checkpoints to prevent regression, eliminating discrepancies between internal position reports and regulatory tax obligations.
- Designed the backend of a **serverless invoicing platform (API Gateway + Lambda + RDS PostgreSQL)** with **Stripe and PayPal** webhook consumers — idempotent invoice creation keyed on event IDs and deduplication at the handler layer prevent double-billing under at-least-once delivery, enabling customers to self-issue **~400 invoices/month** at sub-second latency with full audit logging.
- Re-engineered **20+ SSIS ETL pipelines** (SQL Server 2008 to 2019) handling daily financial snapshots across multiple asset classes — identified bottlenecks through execution plan analysis, redesigned indexes on high-cardinality join columns, and restructured batch sequencing to increase parallelism, cutting wall-clock processing time from **~5 hours to under 2.5 hours** and eliminating downstream SLA breaches.
- Migrated an internal billing frontend from **AngularJS to React (S3 + CloudFront)**, eliminating EOL-driven runtime failures and reducing catalog load times by **30%** through CDN caching and route-level code splitting.
- Cut mean time to root cause from **~45 to ~10 min** by building a shared library of **40+ parameterized KQL queries** for Kibana, standardizing log correlation across distributed Lambda executions so any engineer can isolate failures without relying on tribal knowledge.
- Maintained **SSRS** accounting report pipelines for **Derivatives, OTC, Fixed Income, and Credit** markets, supporting daily reconciliations and regulatory audit trails across multiple financial products.
- Mentored a junior engineer to full production ownership of the reporting module within **6 months** — cut their PR revision cycles from **~4 to 1 per sprint** by establishing shared standards around code review, test coverage, and debugging practices.

General Directorate of Academic Administration – UNAM

FULL-STACK DEVELOPER & QA ENGINEER

Mar. 2021 – May. 2022

Mexico City, Mexico

Node.js · PostgreSQL · PKI / cryptographic signing · Python · TDD

- Built a document signing platform (**Node.js + PostgreSQL + PKI-based cryptographic signing**) to issue tamper-proof academic credentials for **~25,000 students** during COVID-19 — operated with zero downtime across peak issuance periods with no dedicated SRE support.
- Introduced TDD as the team's default practice and delivered **60+ automated regression scripts** in Python — reduced production bug rate by **~40%** and kept regressions at zero across **8 consecutive deployments**.

IBM
SOFTWARE ENGINEERING INTERN
REST APIs · Microservices · API design

Aug. 2021 – Nov. 2021
Mexico City, Mexico

- Defined a unified API documentation standard for **8+ microservices** across **3 teams**, covering request/response schemas and error contracts per endpoint — cut engineer onboarding from **~2 weeks to 4 days**.

Umvel
BACKEND DEVELOPER

Feb. 2019 – Feb. 2021
Mexico City, Mexico

NestJS · PostgreSQL · MongoDB · Redis · Stripe · PayPal · OAuth2 / JWT · Twilio · Nginx · Firebase

- Owned backend architecture for **5+ SaaS products** (travel, marketplace, food-tech) across the full lifecycle — data modeling (**PostgreSQL**, **MongoDB**), payment integrations (**Stripe**, **PayPal**), and auth flows (**OAuth2/JWT**) — shipping without dedicated QA or infrastructure support.
- Replaced an unreliable native WebSocket chat layer with a **Twilio**-backed messaging system (**NestJS**), decoupling delivery from application state and cutting production communication incidents by **~70%** within the first month.
- Raised service throughput by **~35%** under production load via **Redis** caching on hot query paths, **Nginx** upstream tuning, and offloading push notifications to **Firebase** asynchronously — keeping notification delivery out of synchronous request paths.

Education

National Autonomous University of Mexico (UNAM)
B.S. IN COMPUTER SCIENCE

Aug. 2016 – Oct. 2021
Mexico City, Mexico

Certifications

AWS Certified AI Practitioner (AIF-C01) — Issued Apr. 2025
AWS Certified Solutions Architect – Associate (SAA-C03) — Issued Dec. 2024
AWS Certified Cloud Practitioner (CLF-C02) — Issued Jun. 2022

Technical Skills

Languages: TypeScript, JavaScript, Python, SQL, C# (.NET)
Backend: Node.js, NestJS, event-driven architecture, distributed workflow orchestration, OAuth2/JWT
AWS: Lambda, Step Functions, API Gateway, EventBridge, SQS, SNS, S3, CloudFront, RDS, Secrets Manager, IAM/STS, CloudWatch, VPC
IaC & CI/CD: Serverless Framework, CloudFormation, AWS CodePipeline
Data: SQL Server (SSIS, SSRS, execution plan analysis, index optimization), PostgreSQL, MongoDB, Redis
Frontend: React
Observability: Kibana / Elastic Stack, New Relic
Practices: TDD, Infrastructure as Code, idempotent system design, reliability engineering

Languages

Spanish: Native
English: Professional working proficiency