Facundo Miglierini

Software Engineer · Backend | Payments · Fintech · Crypto

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PROFESSIONAL SUMMARY

Backend-focused software engineer specializing in payment systems that require strong consistency: idempotency, sagas with compensation, reliable webhooks and reconciliation. I built the backend of a crypto payment gateway in production in Bolivia and a payment acceptance service on Argentina's interoperable QR 3.0 standard. I work with TypeScript, Node.js and NestJS on MongoDB, MySQL, RabbitMQ and AWS. B.Sc. in Computer Science from UNLP; Distinguished Graduate award for the highest GPA of the year (9.14/10).

WORK EXPERIENCE

Backend Developer · Koibanx Jul 2025 — Present

Payments & Web3 fintech · Remote

- Built the entire backend of a **crypto payment gateway in production for one of Bolivia's leading electronic payment networks**, serving 6,000+ merchants: PoS terminals generate crypto QR codes from amounts in bolivianos (BOB). Includes **daily merchant settlement**, refunds, sync with the liquidity provider, **asynchronous reporting** (RabbitMQ, S3) and a merchant back office with KYB.
- Implemented fault-tolerant transaction flows: **sagas with compensation**, **idempotency and retries** on every operation, a **transactional outbox** to guarantee publishing to queues, and async **webhook** processing with unique per-event registration, out-of-order handling and **sync jobs** as a fallback. Diagnosed and resolved **production incidents** involving transactions stuck in sagas, triggered by webhooks.
- Built end to end a **QR payment acceptance service on Argentina's interoperable QR 3.0 standard**: merchant management, QR generation, settlement and **reconciliation against Newpay**, the scheme administrator. Multi-tenant REST API (Node.js, TypeScript, Express, MongoDB). Pending go-live.
- Fully built the integration of a new **sponsor bank** for a regulated Argentine PSP (**CVU virtual accounts, aliases and DEBIN request-to-pay**), designed to **switch banks without disrupting operations**.
- Ongoing: member of the backend team building an **exchange with three settlement rails (ARS, USD and stablecoins)** on a **double-entry ledger**, with modules for trade execution, settlement, reconciliation, auditing, alerts and back office (NestJS, MySQL, Keycloak, Valkey, SQS/SNS). Also designing from scratch an **on-chain transaction orchestrator on Algorand** (Valkey, DynamoDB).
- Apply **Clean Architecture and hexagonal architecture** with unit tests in **Jest**; integrated **KYC/KYB** providers, built **audit** features, and maintain **asset tokenization** platforms for banks in El Salvador.

Backend & Cognitive Developer · Snoop Consulting Aug 2024 — Jun 2025

AI & Cognitive team · Remote

- Designed end to end and shipped to production a **GCP ETL pipeline** for a Chilean supermarket chain that processes daily reports with Cloud Functions and **Dataflow** and loads them into **BigQuery** for Looker Studio dashboards.
- Prototyped a **LangGraph multi-agent system** with a supervisor architecture and **ReAct** agents for **text-to-SQL**, ClickUp operations and **RAG** over internal docs; evaluated **MCP** servers and n8n as alternatives for agent orchestration.

SELECTED PROJECTS

Stock Alerts — Self-hosted market alerting platform 2026

Personal project · github.com/FacundoMiglierini/StockAlerts

Three services decoupled through **PostgreSQL**: a **NestJS** + Prisma REST API (Clean Architecture), a **Python** worker that evaluates technical-analysis strategies (moving averages, RSI, MACD, Bollinger Bands) and sends email and Telegram alerts, and a React SPA, all run with Docker Compose.

Qudos — Quantum computing encyclopedia (B.Sc. thesis) 2024 – 2025

Co-author · go.ripaisc.net/qudos

Open-source, Spanish-language encyclopedia covering qubits, gates and algorithms (Grover, Shor), with Quirk simulators and Qiskit examples. Built with **Astro, TypeScript and MDX**.

Real-time traffic alerts — Distributed Systems final project 2024

UNLP · github.com/FacundoMiglierini/Proyecto-Final-gRPC

A **Java 21** server with **gRPC streaming** that ingests events from simulated bots and stores them in **CrateDB** (distributed SQL); a Nuxt 3 frontend shows them on a map of Argentina in real time over **WebSockets** (Socket.io).

TECHNICAL SKILLS

Languages	TypeScript, JavaScript, Python, Java
Backend & frontend	Node.js, NestJS, Express, Flask; React, Vue
Databases	MongoDB, MySQL, PostgreSQL, DynamoDB, Valkey/Redis, BigQuery; Prisma, SQLAlchemy
Cloud & Infra	AWS (S3, SQS, SNS, SES, DynamoDB), GCP (Cloud Functions, Dataflow, BigQuery), Docker
Messaging & APIs	RabbitMQ, AWS SQS/SNS, REST, webhooks, WebSockets, gRPC
Security & identity	Keycloak, OAuth 2.0, OpenID Connect, JWT, API-key multi-tenancy
Fintech domain	Settlement, reconciliation, double-entry ledger, KYC/KYB, auditing, interoperable QR 3.0 (Argentina), CVU, aliases and DEBIN, stablecoins, Algorand
Reliability	Saga pattern with compensation, idempotency, retries, outbox and inbox patterns
Practices	Clean Architecture, hexagonal architecture, unit testing (Jest), CI/CD, Git / Git Flow, Scrum
AI / Data	LangChain, LangGraph, ReAct agents, RAG, MCP, ETL pipelines, pandas

EDUCATION

B.Sc. in Computer Science — National University of La Plata (UNLP) 2020 – 2025

GPA 9.14/10 · Distinguished Graduate (highest GPA of the year) · Distinguished Thesis: “Two Roadmaps for Learning Quantum Computing”

University Programmer Analyst — National University of La Plata (UNLP) 2020 – 2023

GPA 8.96/10 · Distinguished Graduate (highest GPA of the year) · Teaching Assistant, Fundamentals of Data Organization (2022)

LANGUAGES

Spanish — Native · **English** — C2 (EF SET)