

João Raul Furtado Lucas

SOFTWARE ENGINEER

Backend · Systems Integration · Distributed Systems · AI Automation

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SUMMARY

Software Engineer focused on backend engineering, systems integration and distributed systems. Builds reliable integration layers between AI products and third-party systems; previously shipped high-throughput financial and fiscal platforms processing millions of records per day. Strong production background in APIs, performance engineering, incident response, idempotency, asynchronous processing, observability and developer tooling.

TECHNICAL SKILLS

Languages: Python, TypeScript, C#, SQL, Delphi

Backend & APIs: FastAPI, .NET, ASP.NET Core, REST APIs, GraphQL, API Design

Data: PostgreSQL, MongoDB, SQL Server, Redis

Cloud & DevOps: GCP, Azure, Docker, GitHub Actions, Azure DevOps

Architecture: Systems Integration, Distributed Systems, Event-Driven Architecture, Microservices, Reliability, Observability, Performance Engineering

AI & Tooling: LLMs, MCP, Structured LLM Pipelines, AI Automation, Developer Tooling

EXPERIENCE

Telepatia AI

Software Engineer

Remote

Aug 2026 – Present

Clinical AI platform integrating intelligent workflows into hospitals and clinics across Latin America.

- Shipped an AI-assisted integration workflow for third-party clinical systems that processed 1.4K+ automated injections and 24.7K+ extractions during its first three weeks of instrumented usage, enabling new integrations without vendor-specific engineering.
- Reduced browser-side screen-recognition payload size by ~90% (5 MB→0.5 MB), eliminating duplicate concurrent probes and tuning cache behavior to accelerate system onboarding and responsiveness.
- Hardened production automation across heterogeneous third-party interfaces with robust state-aware handling for complex UI controls and regression coverage, reducing integration failures across instrumented production usage.
- Added end-to-end auditability across new and legacy automation paths and expanded an LLM-assisted mapping workflow with reusable templates and conditional-field resolution, improving failure visibility and reducing repeated onboarding work.

Singular

Software Engineer

Porto Alegre, RS

Dec 2025 – Aug 2026

Backend and distributed systems for Brazilian electronic invoicing, financial operations and high-volume integrations.

- Designed a configurable approval workflow for a financial platform serving ~15,000 users, introducing governance over transactions exceeding R\$230M (~US\$46M) monthly and preventing erroneous high-value bonus payouts.
- Led root-cause analysis of recurring SQL Server connection pool exhaustion and redesigned the reconciliation pipeline with 12 Redis-backed distributed workers, caching, controlled concurrency and batching, reducing peak connections from ~400 to 12, queries by 80% (~500K→~100K) and runtime from 40 to 15 minutes.
- Maintained 99.99% successful electronic invoice issuance across 25K+ monthly documents through resilient integrations with Brazilian tax authority APIs, using idempotent retries, fault-tolerant processing and production monitoring.
- Built a greenfield microservice supporting ~150% year-over-year platform growth and an internal LLM-powered engineering tool that integrated GitHub, Azure DevOps and Jira to automate validated reporting workflows.

Nelogica

Software Engineer

Porto Alegre, RS

Jun 2024 – Nov 2025

Financial technology platform supporting high-throughput backend services, brokerage operations and regulatory integrations.

- Maintained backend and data pipelines processing 3–4 million financial records per day across real-time and batch workflows, ensuring reliability under sustained production workloads.
- Led end-to-end production incident investigations across data ingestion, database performance and backend services; delivered permanent fixes through root-cause analysis, execution-plan analysis, targeted indexes and stored-procedure refactoring.
- Built resilient integrations with Brazil's stock exchange (B3) trade, settlement and pricing formats and modernized legacy workflows from VB6 into Delphi and .NET services.

EDUCATION

Universidade Federal de Viçosa | Postgraduate Degree in Artificial Intelligence | Mar 2024 – Feb 2026

IFSUL – Instituto Federal Sul-rio-grandense | Associate's Degree, Internet Systems | Feb 2020 – Dec 2023

LANGUAGES

Portuguese (Native) · English (C1 Advanced) · Spanish (Elementary)