Lucas Viana Maia

Backend & AI Software Engineer

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Professional Summary

Software Engineer specialized in Java backend development and Generative AI architecture. Experience designing modular platforms for orchestrating autonomous agents integrated with corporate systems. Strong background in System Design, relational data modeling, concurrency control, and resilient API integration. Practical application of LLMs in production environments with emphasis on transactional consistency, state management, and operational reliability.

Engineering Highlight

Personyx Core — Multi-Tenant Agent Orchestration Platform

Java 25 · Spring Boot 3 · PostgreSQL · OpenAI · Twilio · Docker

Proprietary framework for creating, managing, and scaling multiple AI agents via WhatsApp, built with a modular architecture that separates the platform core from client-specific business logic.

- Modular architecture with clear separation between core engine and client extensions.
- Concurrency control implementation using message buffering (*debounce*) and locking mechanisms to prevent race conditions.
- LLM orchestration with support for function calling, dynamic tool execution, and structured response validation.
- Persistent conversational state with transactional integrity and interaction traceability.
- Resilient integration layer for external APIs (CRM and messaging), including centralized error handling and retry policies.
- Sensitive data protection using encryption at rest and identifier anonymization via hashing.

Professional Experience

AI & Backend Engineer — Independent Practice

Brazil | 2024 – Present

- Developed a full-cycle sales agent for the industrial sector, automating lead intake, qualification, technical recommendation, and proposal generation.
- Implemented hybrid decision logic combining deterministic rules and LLM reasoning for product selection, price range calculation, and assisted negotiation.
- Automated structured proposal generation with integration to digital signature platforms.
- Built backend services in Java (Spring Boot 3) exposing REST APIs with PostgreSQL persistence.
- Containerized application with Docker and managed Dev/Prod environments using Spring profiles.

Technical Project Analyst — BMC Hyundai

Remote | 2021 – 2024

- Translated operational needs into structured system requirements.
- Developed executive dashboards in Metabase using advanced SQL for real-time KPI monitoring.
- Performed technical validation of digital deliveries and identified structural improvements in legacy processes.
- Progressed from intern to a role with increased analytical and technical responsibility.

Core Stack

Java 25 · Spring Boot 3 · PostgreSQL · OpenAI API · Docker · Git

Engineering Concepts

System Design · Modular Monolith · REST APIs · Design Patterns · Relational Data Modeling · Concurrency & State Management · Resilient API Integration · Generative AI applied to business processes

Education

Bachelor's Degree in Software Engineering — Anhanguera
Expected Graduation: 2028

Associate Degree in Information Technology Management — Anhanguera
Expected Graduation: 2026

Languages

Portuguese — Native
English — Advanced