Guilherme D'Amoreira

Senior Software Engineer
Distributed Systems Architecture & Application Security

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About Me



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TOP 3% TALENT

Vetted by Toptal

Hire me

GUILHERME D'AMOREIRA · SENIOR SOFTWARE ENGINEER

Open for Staff Engineer, Tech Lead & Software Architect roles

Barcelona · Remote-friendly | 15+ yrs backend architecture | Distributed systems | Application security | JVM · Kotlin · Kafka

I'm a senior software engineer and technical lead based in Barcelona, available for remote roles. Over the past 15 years, I've built backend platforms across PropTech, cybersecurity, FinTech, and enterprise SaaS, taking responsibility for architecture, system reliability, and delivery.

Most of my work is in Kotlin, Java, and Python, building event-driven services with Quarkus, Spring Boot, Apache Kafka, and PostgreSQL on AWS and Kubernetes. Having spent over three years as an application security engineer at Oracle, I bring threat modeling, static analysis, and secure engineering practices directly into day-to-day architecture.

I've worked at different company stages: tech lead on the 3D automation platform behind Decora's US$100 million acquisition, CTO of a B2B startup, and senior engineer guiding backend standards. In my own time, I build and maintain Snodra, an open-source messaging stack for event-driven systems and gRPC.

Hiring for a Staff Engineer, Tech Lead or Software Architect role? Reach me on LinkedIn or email guilherme@damoreira.com.

Career highlights

Key technical and operational milestones across distributed systems, application security, and team leadership.

SCALE & IMPACT

A US$100 million exit

Tech lead on the 3D automation platform that scaled Decora from 15 to 150+ people, resulting in our acquisition by CreativeDrive in 2018 (Brazil's second-largest tech deal that year).

DISTRIBUTED SYSTEMS

Real-time platform engineering

Led development of the IoT ingestion and calculation pipelines at Beyonnex, converting continuous meter telemetry into live heating consumption and transparent billing across German real estate portfolios.

APPLICATION SECURITY

Security built into engineering

Built internal static analysis and code-auditing tools for Oracle NetSuite to accelerate vulnerability detection across enterprise codebases, and coached development teams on secure design.

PLATFORM OWNERSHIP

Enterprise ASPM delivery

Led development of Phoenix Security's ASPM platform, aggregating and correlating vulnerability data across cloud infrastructure, container workloads, and application code.

LEADERSHIP

Executive experience

CTO at Reticomm for two years, managing cloud infrastructure, architecture, and product delivery while aligning engineering roadmaps with business milestones.

OPEN SOURCE

Author of Snodra

Creator and maintainer of Snodra, an open-source messaging stack featuring a stateless Rust router, multi-language client libraries (Kotlin, Rust, Go, Python), and a protocol test suite.

VETTING

Vetted and certified

Member of the Toptal network since 2021, with Black Hat certifications in API security, security automation, and practical malware analysis.

See the full timeline, endorsements, and shared connections.

View full profile on LinkedIn

Core competencies

Primary technical areas, architectural patterns, and engineering practices.

ARCHITECTURE & DESIGN

Distributed systems & microservices

Event-driven architecture (CQRS), Domain-Driven Design, high availability, REST and gRPC API contracts, and fault-tolerant system design.

LANGUAGES & FRAMEWORKS

JVM, Rust & Python

Kotlin, Java (8–21), Spring Boot, Quarkus, Rust, Python, and TypeScript (Angular, React, Vue).

DATA & STREAMING

Event streaming & databases

Apache Kafka and RabbitMQ for event streaming; PostgreSQL, MySQL, Oracle, MongoDB, and Redis for transactional and cached storage.

CLOUD & DEVOPS

AWS, Kubernetes & CI/CD

AWS (EC2, S3, RDS, IAM, CloudWatch), Docker, Kubernetes, Terraform, and automated CI/CD with GitHub Actions, Jenkins, and Bamboo.

APPLICATION SECURITY

ASPM & secure SDLC

Application Security Posture Management (ASPM), SAST/DAST automation, static analysis tooling, threat modeling, API security, and vulnerability remediation.

LEADERSHIP & DELIVERY

Technical strategy & mentorship

Cross-team architecture alignment, technical roadmap execution, engineering mentorship, Agile/Scrum, PMBOK, and ITIL practices.

Projects

Snodra — open-source messaging for services that speak events and gRPC

snodra.damoreira.com

An open-source messaging stack for service fleets: routing commands, queries, events, and sagas over gRPC and Kafka without centralized message brokers.

Snodra is a CQRS-style messaging framework for distributed service architectures. Services send commands and queries to a stateless Rust router, which routes them directly to live handlers with support for timeouts, retries, and streaming. Events are written through a transactional outbox pattern alongside local database updates and streamed to idempotent consumers. Sagas coordinate multi-step workflows with deadlines.

I handle the system design, wire protocol, and documentation:

- **Snodra Server:** a stateless gRPC router and control plane written in Rust with zero persistent state, allowing horizontal scaling without cluster coordination.
- **Client libraries:** Kotlin with a Spring Boot starter (published to Maven Central), Rust (crates.io), Go, and Python, with Node.js and C# on the roadmap.
- **Protocol test suite:** an automated conformance suite that validates client behavior against live server instances.
- **Pluggable storage:** Kafka or RabbitMQ Streams for events; PostgreSQL, MySQL, or MongoDB for outbox storage.
- **Security:** token, OAuth2/OIDC, and mTLS support with per-service access controls.

The project is open source and released under Apache-2.0. Source: github.com/snodra.

Stack: Rust, tonic, gRPC, Kotlin, Spring Boot, Go, Python, Apache Kafka, RabbitMQ Streams, PostgreSQL, MySQL, MongoDB, OpenTelemetry, Docker

Charlie — the 3D render farm behind Decora's US$100 million exit

creativedrive.com

Led the engineering behind the 3D automation platform that scaled Decora from 15 to 150+ people, resulting in a US$100 million exit.

In 2016 I joined Decora, then a small interior design startup in Florianópolis. When we saw that major retailers struggled to stage and photograph overseas products in studios, Decora pivoted into a B2B 3D visualization platform. I was responsible for engineering the core backend and rendering automation.

We built the backend in Java and Spring Boot with CQRS and microservices. For the production pipeline, I wrote desktop automation tools in MaxScript for 3ds Max to position assets, trigger V-Ray renders, run geometry and lighting quality checks, and export models to FBX and GLB. Behind it, Python services queued jobs across our render farm and retrieved completed renders automatically.

We also developed a real-time scene composer tool in Unity that allowed designers to assemble 3D rooms with validated catalog models and send finished scenes to the farm for high-resolution output.

Decora grew from 15 people to over 150 employees, producing 15,000+ 3D models and 7,000 digital scenes monthly. In March 2018, CreativeDrive acquired Decora for US$100 million (the second-largest Brazilian tech deal that year). CreativeDrive was later acquired by Accenture.

Stack: Python, Java, Spring Boot, CQRS, Kafka, MaxScript, 3ds Max, V-Ray, Unity, Unreal Engine, MongoDB, Redis, AWS

Experience

Beyonnex.io

Senior Software Engineer

August 2025 - Present

beyonnex.io

Leading development on the real-time IoT platform that calculates heating consumption and costs across German real estate portfolios.

Returned to Beyonnex in August 2025 as a Senior Software Engineer to lead development on the platform that calculates tenant costs in real time, replacing complex localized batch processes with transparent, live billing.

- **Real-time calculation engine:** led the development of core calculation services and data ingestion pipelines, converting continuous IoT meter telemetry into accurate consumption data and cost estimations.
- **Resilient event streaming:** developed and scaled low-latency microservices in Kotlin, Quarkus, and Apache Kafka, ensuring high availability, fault tolerance, and data integrity as building volume expands.
- **Engineering standards:** drove testing practices, CI/CD automation, and maintainability across backend services, ensuring scalable delivery to meet client and stakeholder needs.

Stack: Kotlin, Quarkus, Apache Kafka, PostgreSQL, Docker, Gradle

Phoenix Security

Senior Software Engineer · AppSec Platform

January 2025 - August 2025

phoenix.security

Led development of the enterprise ASPM platform that correlates vulnerabilities across cloud, containers, and code.

Phoenix Security is an Application Security Posture Management (ASPM) platform that correlates vulnerability data across cloud infrastructure, container workloads, and application repositories.

- **Platform delivery:** led development of the platform from initial architecture through production rollout.
- **Risk prioritization:** built the risk-scoring and aggregation engines in Java 17, Kotlin, and Spring Boot to surface critical exposure paths for security teams.
- **Cross-team delivery:** collaborated with product, security research, and frontend teams on PostgreSQL performance, API contracts, and platform uptime.

Stack: Java 17, Kotlin, Spring Boot, PostgreSQL, Angular, Docker, AWS, CI/CD

Beyonnex.io

Senior Software Engineer

November 2023 - December 2024

beyonnex.io

Developed the initial calculation services that replaced legacy manual heating billing in Germany.

Joined Beyonnex to build the backend services that modernize heat consumption calculation, moving from localized manual processes to automated IoT data collection.

- **Calculation services:** developed backend services in Kotlin and Quarkus to calculate heat consumption and tenant costs from daily IoT meter readings.
- **Data ingestion:** built event pipelines with Apache Kafka to process telemetry streams reliably from diverse building sensors.

Stack: Kotlin, Quarkus, Apache Kafka, PostgreSQL, Gradle

Oracle (NetSuite)

Senior Application Security Engineer

July 2020 - November 2023

oracle.com

Built internal security automation tools and helped engineering teams embed security into their code.

Worked on application security for NetSuite, conducting architecture reviews and building tools to address systemic security patterns.

- **Automated security tooling:** built internal static analysis (SAST) tools and code-auditing scripts to catch vulnerabilities early in development.
- **Architecture & reviews:** led threat modeling sessions, gap analyses, and secure code reviews across core application components.
- **Developer enablement:** coached engineering teams on secure coding guidelines, API hardening, and vulnerability remediation.

Stack: Java, static analysis tooling, SAST, API security, threat modeling, CI/CD

Toptal

Senior Software Engineer · Part-Time Consultant

September 2021 - Present

toptal.com

Part-time backend consulting for client companies in the Toptal network.

- **Bloom Tree Partners:** built an internal operational monitoring and analytics system to capture infrastructure events and metrics for reporting.
- **Mumo Systems:** developed backend formula-calculation features for Abacus, a commercial Jira app for custom math calculations.

Stack: Java, Kotlin, Spring Boot, REST APIs, Atlassian SDK, SQL

FREENOW (formerly mytaxi)

Software Engineer

Maintained core microservices for driver onboarding and vehicle fleet management.

- **Fleet management:** built and supported microservices managing driver registration, document verification, and vehicle records across European markets.

December 2019 - May 2020
free-now.com

- **Production operations:** maintained JVM services on AWS and Kubernetes using RabbitMQ for event messaging, handling production deployments and incident triage.

Stack: Java, Kotlin, Spring Boot, Spring Cloud, Kubernetes, AWS, RabbitMQ, PostgreSQL, Docker

Decora / CreativeDrive

Tech Leader & Software Engineer
March 2016 - November 2019
creativedrive.com

Led engineering teams building the 3D rendering platform through Decora's scale-up and US$100 million exit.

Joined Decora as tech lead during its pivot to B2B 3D content, continuing through the CreativeDrive acquisition.

- **Pipeline automation:** led engineering teams automating the 3D rendering pipeline, integrating 3ds Max via MaxScript with our distributed render farm.
- **Backend architecture:** built task distribution and scheduling pipelines using Java, Spring Boot, Axon Framework (CQRS), Apache Kafka, and Kubernetes on AWS.
- **Production scale:** scaled the platform to deliver over 15,000 product models and 7,000 digital scenes per month for retailers including Target and Lowe's.

Stack: Java, Spring Boot, Apache Kafka, Axon Framework, AWS, Kubernetes, Docker, Python, MongoDB, Redis

Reticomm

Chief Technology Officer (CTO)
October 2016 - October 2018

CTO leading engineering strategy and infrastructure for an internal communications SaaS.

- **Technical direction:** managed the architecture, AWS infrastructure, and delivery roadmap for an internal communications scheduling and analytics platform.
- **Hands-on development:** led the development team building content scheduling, audience segmentation, and analytics services using Java, Angular, PostgreSQL, and Redis.

Stack: Java, JavaEE, Angular, AWS, PostgreSQL, Redis, WildFly

Grupo Nexxera

Software Engineer
September 2015 - February 2016
www.nexxera.com

Engineered payment integrations for a centralized enterprise financial platform.

Built backend modules for Hive, consolidating payment gateway and credit card processing services previously spread across separate internal systems.

Stack: Java, Spring Boot, RabbitMQ, Oracle, MongoDB, Redis

JExperts Tecnologia

Tech Leader & Java Engineer
June 2010 - August 2015
www.jexperts.com.br

Led development of Channel, an enterprise project portfolio and strategy management platform.

Led the technical team building Channel, a portfolio and strategy management platform using Java, AngularJS, and relational databases (Oracle, PostgreSQL, SQL Server). Handled sprint planning, task estimation, and software architecture.

Stack: Java, JavaEE, AngularJS, Oracle, PostgreSQL, SQL Server, WildFly

Earlier roles

HMW Soluções Tecnológicas · Softplan
March 2009 - May 2010

- **HMW Soluções Tecnológicas (Co-Founder & Software Engineer, 2010):** co-founded a software company building hospital and process management systems for public sector departments.
- **Softplan (Software Engineering Intern, 2009 – 2010):** developed financial planning and loan analysis software in Java for public sector organizations, including the Inter-American Development Bank and the Ministry of Agrarian Development.

Stack: Java, JavaEE, JBoss Seam, JSF, Hibernate, Oracle, PostgreSQL

Education

Postgraduate Degree in Data Science Engineering
2018 – 2019
Universidade do Sul de Santa Catarina (UNISUL)

Coursework in statistics, data preparation, machine learning fundamentals, and predictive modeling.

MBA in Project Management
2014 – 2015
SENAI/SC

Project planning, risk analysis, Scrum, Agile delivery, and stakeholder management.

BTech in Automation Engineering Technology
2009 – 2011
SENAI/SC

Industrial automation, embedded systems, electronics, physics, and applied mathematics.

Technician in Computer Software Technology
2006 – 2008
SENAI/SC

Software architecture fundamentals, algorithms, relational databases, UML, and object-oriented programming.

Certifications & languages

Cybersecurity certifications (Black Hat)

- A Complete Practical Approach to Malware Analysis and Memory Forensics — Black Hat, December 2022 (ID 63789321)
- Automating Security with Open Source — Black Hat, August 2022 (ID 56106531)
- Attacking and Securing APIs — Black Hat, August 2021 (ID 36101770)

Languages

- English — fluent, professional
- Spanish — fluent, professional
- Portuguese — native

A Little More About Me

I write software for a living and, most evenings, for fun. The difference is that at night nobody asks for an estimate.

Building things nobody asked for. My side projects are where I learn a technology properly, by shipping something with it. Snodra started that way and is now the largest: it is where I went deep on Rust, protocol design and what it takes to keep client libraries in several languages honest with each other. Kotlin and Java are still my first languages, Python is the one I reach for when something needs automating, and Rust is the one I pick when I want the compiler to argue with me.

Games, old and new. I have played video games for as long as I can remember, and I like the ones with history. That is how ROMs em Português came about: a catalog of 1,809 fan-made Portuguese translations across 16 consoles, from 1983 to 2025, that I generated from the community index at romsportugues.com. It is deliberately simple engineering: a static site in plain HTML, CSS and JavaScript, with instant search and filters by console and genre, no framework and no tracking.

A home lab that got out of hand. Two Proxmox hosts run Kubernetes, Kafka, PostgreSQL, GitLab, Harbor and Nexus, all provisioned with Terraform and Ansible. It is where I try things before I recommend them at work, and where I break them without anyone opening an incident.

Away from the keyboard. Karate and the gym keep me honest: both reward showing up consistently more than talent, which is also how I think good engineering teams work. The rest of the time goes to reading and to whatever technology I have decided to understand next.

Get in touch

Open to **Staff Engineer, Tech Lead, and Software Architect** roles in Barcelona or remote, especially on teams focused on distributed backend systems and application security.

Connect on LinkedIn

Email Guilherme

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