Joao Paulo L. F. Dias da Silva

Principal Software Architect | Distributed Systems • Event-Driven & Data Platforms • Team Enablement

About

Principal Software Architect | Distributed Systems & Data Platforms | Engineering Excellence

Mason, OH

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Resume: [Latest PDF](#) 🔗

Summary

Principal software architect (25+ yrs) delivering large-scale distributed, event-driven and data-intensive platforms for Fortune 500 companies.

Led the modernization of legacy ecosystems (monolith to microservices, DDD, event-driven, IaC, cloud-native/hybrid) while elevating engineering excellence (TDD, pair programming, refactoring, contract & performance testing, observability, shift-left quality).

Architected data platforms (lambda architecture, data lake/mesh), designed and implementated ETL and real-time/streaming pipelines using Databricks, Apache Spark, HDFS, Kafka, and the equivalent cloud-native stack in AWS and Azure, while elevating data excellence (governance frameworks, cataloging and lineage, security and compliance, data quality, and democratized data access).

Has consistently helped autonomous and cross-functional teams deliver business value early and often while ensuring the implementation of high-quality, high-performant, and maintainable solutions.

Brings strong consulting and leadership skills (coaching and mentoring individuals and teams, facilitating collaboration, guiding conflict resolution, and building stakeholder alignment) to drive lasting transformation beyond technology delivery.

Core Competencies

- Architecture: Distributed Systems, Microservices, Event-Driven Architecture, Event Sourcing, CQRS, Actor Model, Domain-Driven Design.
- Data & Streaming: Apache Kafka, Apache Spark (batch & streaming), Hadoop Ecosystem, Data Lakes, Data Warehousing, Data Mesh, ETL, Real-Time Analytics, Machine Learning.

- Cloud & Infrastructure: AWS, Azure, GCP, Kubernetes, Docker, Terraform, Bicep, Resilience & Performance Engineering, Scalability Patterns.

- Engineering Excellence: TDD, Contract Testing (Pact), Performance (Gatling, K6), Test Pyramid, Shift-Left Quality, Observability (Prometheus, Grafana, Datadog, Dynatrace, ELK).

- Languages & Paradigms: Java, Scala, Clojure, C#/.NET, JavaScript/TypeScript, Functional & Reactive, Parallel & Async Programming
AI / GenAI: LLMs, RAG, Prompt Engineering, Agentic Systems, LangChain / LangGraph, Claude API, OpenAI API, Hugging Face Models, MCP.

- Leadership & Delivery: Technical Strategy, Roadmapping, Trunk-Based Development, Continuous Delivery Enablement, Coaching (Clean Code, TDD, Agile), Stakeholder & Executive Communication, Technical Discovery & Inception Facilitation.

Experience

ThoughtWorks – Lead Consultant (May 2014–Present | Mason, OH)

- Improved critical platform response time 80% and sustained 99.99% availability by architecting an event-sourced CQRS solution (Scala, Akka, gRPC) for a Fortune 500 client.

- Scaled 60+ microservices processing 20M+ daily events (99.99% uptime) using DDD-aligned bounded contexts and resilient streaming/event patterns.

- Migrated batch workloads to Spark streaming (10+ TB daily throughput) reducing end-to-end processing time 60% and enabling near-real-time analytics.

- Established multi-layer automated test strategy (unit, integration, contract, performance) driving 90% reduction in production defects.

- Accelerated deployment frequency from semi-annual to weekly via trunk-based development, pair programming, technical debt governance and shift-left quality.

- Facilitated C-level technical discovery shaping multi-year modernization and platform roadmaps.

- Mentored 30+ engineers (architecture, TDD, clean code) and coached 10+ consultants on career development.

- Conference speaker (QCon Rio, QCon São Paulo) on scalable data lake architecture.

Instituto Atlântico – System Analyst / Developer (Sep 2013–Jan 2014 | Fortaleza, Brazil)

- Contributed Android components for enterprise printer management (HP ecosystem)
- Introduced Git workflows improving collaboration and release traceability

Earlier Experience (1998–2012): Leadership & engineering roles (WPF, ASP.NET MVC, mobile, financial systems); Founded quantoe.com.br (B2B price comparison platform); Delivered iOS/Android apps for major brands; Robotics lab software/hardware solutions

Selected Achievements

- 40% engineering velocity increase through streamlined delivery practices and architectural governance
- 10TB+ streaming ingestion platform enabling shift from batch latency to sub-hour insights
- Sustained 99.99% availability across high-scale, event-driven retail ecosystem during global peak loads

- Deployment cadence improved from once / 6 months to weekly without quality regression

Certifications

- AWS Certified Cloud Practitioner
- AWS Partner Technical Accreditation
- HDP Developer: Apache Pig and Hive
- Introduction to Functional Programming (edX)
- Heterogeneous Parallel Programming (Coursera – University of Illinois)

Speaking & Publications (Full List)

- Apache Spark 🔗
- Apache Kafka 🔗
- Apache Cassandra 🔗
- Recommender Systems 🔗
- Apache Storm 🔗
- GPU Programming - OpenCL 🔗
- Unit Testing 🔗
- QCon 2017 Rio Workshop - Data Lakes - PT-BR 🔗

Education

Instituto de Tecnologia ORT – AAS Electronics
Additional university coursework: Informatics (Faculdade Christus), Engineering (UERJ)

Languages

Portuguese (Native) • English (Full Professional)

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