

Ariadne Gonçalves Pinheiro

Senior Systems Analyst & Software Engineer | C# / .NET

Rio de Janeiro, RJ, Brazil | ariadne.pinheiro@gmail.com | +55 21 96954-1543
[LinkedIn](#) | [GitHub](#) | [ORCID](#)

Professional Summary

Senior Software Engineer and Senior Systems Analyst with over 19 years of solid experience across the entire Software Development Life Cycle (SDLC). Specialized in modernizing high-complexity legacy systems and designing distributed, scalable architectures for the public sector and regulated environments (government and education). In-depth mastery of the .NET ecosystem (C#, ASP.NET WebForms, ASP.NET MVC, .NET Core), enterprise requirements engineering, and advanced relational and cloud data modeling (SQL Server with T-SQL Stored Procedures, Oracle SQL).

Focus on engineering excellence, software engineering best practices, and code quality, applying Clean Architecture, Domain-Driven Design (DDD), Hexagonal Architecture, Microservices, TDD, and BDD. Consolidated track record in DevOps culture, semantic versioning (Git), CI/CD pipeline automation, service containerization (Docker/Kubernetes), and Cloud Computing (AWS/Azure) for high-availability, mission-critical environments. Acts as a strategic liaison between cutting-edge engineering, business process analysis, and corporate innovation, integrating AI-assisted development (Generative AI and RAG) into agile workflows to ensure secure, high-performance deliveries in strict compliance with LGPD and IT governance frameworks.

Professional Experience

C# / .NET Systems Analyst & Developer

Rio de Janeiro State Department of Education (SEEDUC-RJ) | 07/2022 – 08/2026 | Rio de Janeiro/RJ, Brazil

Technical leadership combining Senior Systems Analysis and Software Engineering in the maintenance, modernization, and continuous evolution of enterprise platforms and mission-critical legacy systems supporting public education across the state, directly impacting thousands of active users (managers, faculty, and administrative staff).

- **Systems Analysis & Requirements Engineering:** Leadership in eliciting, gathering, and refining complex requirements with stakeholders and business units; business process modeling (BPMN), drafting functional and technical specifications, and architecting scalable solutions in full compliance with LGPD and IT governance standards.
- **Backend Development & Architecture (WebForms, C#, .NET 8):** Modernization and architecture of enterprise applications and high-performance RESTful APIs using C#

and .NET 8 (with maintenance of legacy systems in ASP.NET MVC and ASP.NET WebForms), applying Clean Architecture, Domain-Driven Design (DDD), SOLID, and microservices patterns for decoupling and maintainability.

- **Database Engineering & Optimization (T-SQL):** Relational modeling and advanced database business logic development utilizing T-SQL Procedures (Stored Procedures), views, triggers, and critical transactional routines; query tuning and index optimization on Microsoft SQL Server and Oracle SQL for high-volume data processing with low latency.
- **Full Stack Development & Integrations:** Development and evolution of responsive and accessible web interfaces, orchestrating secure integrations with third-party services and APIs (such as geolocation via OpenStreetMaps), and adopting Generative AI tools to enhance team productivity and technical quality.
- **Quality, DevOps & Agile Methods:** Enforcement of high standards of code quality and security through automated testing (TDD/BDD) and continuous monitoring with SonarQube; operation of automated CI/CD pipelines, Git semantic versioning, containerization via Docker/Kubernetes, and collaborative participation in agile ceremonies (Scrum/Kanban).

Web Analyst/Developer & IT Consultant

Grupo Pinheiro e Sperle Desenvolvimento Web | 03/2008 – 02/2025 | Rio de Janeiro/RJ, Brazil

- Acted as principal software engineer responsible for planning, architecting, and delivering high-availability web portals and applications for federal and state government entities (including the Ministry of Education - MEC and Armed Forces).
- Engineered reliable and stable platforms tested to support millions of visits, leveraging scalability-focused frameworks and languages (PHP, SQL, JavaScript, HTML/CSS, WordPress, and Joomla).
- Fully managed cloud infrastructure provisioning on AWS and Microsoft Azure, monitoring load balancing, data encryption, and secure storage for digital public services.
- Actively led the full software development lifecycle in cross-functional meetings with stakeholders for requirements gathering, assertive prototyping, systemic deployment routines, and CI/CD orchestration.
- Performed deep refactoring of legacy structures, relational database modeling and optimization, and performance/SEO metrics, adhering strictly to government usability standards and e-government accessibility guidelines.

R&D Machine Learning and Artificial Intelligence Researcher

Fluminense Federal University (UFF) / CAPES | 09/2020 – 10/2021 | Rio de Janeiro/RJ, Brazil

- Full engagement in Research & Development (R&D) for Machine Learning models, focusing on the intersection of computational data privacy and the technical algorithmic

application of the "right to be forgotten" in streaming data.

- Development and adaptation of complex stochastic online learning algorithms (K-NN and SAM-KNN) utilizing the Python ecosystem (Scikit-learn, Scikit-Multiflow).
- Prototyping extensive data pipelines to isolate the underlying statistical impact of controlled data removal on structured predictive models, culminating in technical cooperation with Paris-Tech University.

Technical Skills & Qualifications

Area	Technologies, Practices & Methodologies
Software Analysis & Engineering	Senior Systems Analysis, Requirements Engineering, Process Modeling (BPMN), Clean Architecture, Domain-Driven Design (DDD), Hexagonal Architecture, Microservices, TDD, BDD, Design Patterns, IT Governance & LGPD.
Languages & Frameworks	C#, .NET ecosystem (.NET Core), ASP.NET Core, ASP.NET MVC, ASP.NET WebForms, Python, PHP, JavaScript, TypeScript, Laravel, Entity Framework.
Artificial Intelligence & Data	Generative AI, Retrieval-Augmented Generation (RAG) Pipelines, LLM Integration & Deployment, Machine Learning (K-NN, SAM-KNN), Vector Databases.
Databases & Performance	T-SQL Procedure (Stored Procedures, Triggers, Views), Microsoft SQL Server, Oracle SQL, Google BigQuery, Query Tuning, Index Optimization, Relational Modeling.
DevOps, Cloud & Methodologies	Amazon Web Services (AWS), Microsoft Azure Cloud, Docker, Kubernetes, CI/CD Pipelines, Git Version Control, SonarQube, Scrum, Kanban, Agile Practices.

Academic Education

- **Postgraduate Degree in Information Security, Cybersecurity, and IT Governance** — Faculdade Estratego, 2025–Present.
- **MBA in IT Governance, Projects, and Services** — Federal University of Rio de Janeiro (UFRJ), 2023–2025.
- **Postgraduate Degree in Information Technology and Innovation** — Faculdade

Estratego, 2024–2025.

- **Postgraduate Degree in Software Engineering and Project Management** — Faculdade Estratego, 2023–2024.
- **Bachelor's Degree in Computer Systems** — Fluminense Federal University (UFF), 2019–2022.

Courses & Certifications

- Basic Principles of Testing, Mutation, and Automation — UFF, 2022.
- Online Learning Algorithm Adaptation (K-NN and SAM-KNN) — PIBIC/UFF, 2020–2021.
- Agile Management Methods: Scrum, Kanban, and Best Practices — TCE-RJ, 2023.
- SQL for Data Analysis 2.0 (BigQuery) — Programação Dinâmica, 2023.
- Qlik Sense: Business Intelligence with Python + SQL — Academia PRODERJ, 2023.
- Artificial Intelligence: Smart Cities — IFAL & HUAWEI, 2021.

Languages

- **English:** Intermediate
- **Spanish:** Basic