

# Fernando Francisco Azevedo

Solutions Architect & AI Engineering Specialist

São Paulo, Brazil

WhatsApp: +55 11 97522-6949

Email: fernando@moretes.com

LinkedIn: [linkedin.com/in/fernando-francisco-azevedo](https://www.linkedin.com/in/fernando-francisco-azevedo)

GitHub: [github.com/fernandofatech](https://github.com/fernandofatech)

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## Professional Summary

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**Enterprise Solutions Architect Specialist** with 16+ years of global experience (Brazil, Europe, Asia) delivering secure, scalable, and AI-powered enterprise systems for the financial sector. Expert in architecting **end-to-end enterprise solutions, cloud-native platforms, event-driven architectures, and AI-integrated banking systems** using **AWS, Azure, .NET Core, NestJS, Node.js, React, Next.js**, and advanced **DevSecOps practices**.

**Enterprise Architecture Leadership:** Specialized in defining **enterprise architecture standards, governance frameworks, and modernization strategies** for financial institutions. Expert in designing **core banking architectures, digital channel platforms, and mission-critical integrations** with focus on **scalability, resilience, security, and regulatory compliance** (Central Bank, LGPD, Open Finance).

**AI & Automation Specialist:** Pioneer in integrating **LLMs (GPT-4, Claude, Gemini)** with production banking systems, specializing in **Prompt Engineering, AI Agents, RAG pipelines**, and tools like **Amazon Bedrock, Claude Code, Gemini CLI, and Langchain**. Built custom **MCP Servers** for secure AI-driven workflows in security automation, DevOps intelligence, and developer assistance.

**Multi-Cloud & Polyglot Expertise:** Extensive hands-on experience with **AWS** (Lambda, ECS, Bedrock, Cognito, EventBridge) and **Azure** (Functions, DevOps, Cosmos DB, Key Vault), **Infrastructure as Code** (Terraform, CDK, Pulumi), **container orchestration** (Kubernetes, EKS, AKS), and **full observability stacks** (Datadog, OpenTelemetry, Prometheus). Proficient in **.NET Core, C#, Java, Spring Boot**, alongside modern JavaScript/TypeScript ecosystems.

Recognized for designing **robust, maintainable solutions** using **Clean Architecture, DDD, CQRS, Hexagonal Architecture**, and **secure-by-design** principles. Bilingual leader with proven success in **mentoring engineers, architectural governance**, and aligning technology strategy with business objectives. **MBA in Solution Architecture (Full Cycle)** graduate, consolidating expertise in distributed systems, enterprise architecture, and strategic technology leadership.

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# Core Competencies

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## Enterprise Architecture & Solution Design

- **Enterprise Patterns:** Enterprise Integration Patterns, SOA, Microservices, API Gateway, Service Mesh, CQRS, Event Sourcing
- **Architecture Governance:** Architecture Decision Records (ADR), C4 Model, Technical Roadmaps, Risk Assessment, Compliance Frameworks
- **Financial Sector Expertise:** Core Banking Systems, Digital Channels, Payment Processing, Open Finance, Regulatory Compliance
- **Modernization Strategies:** Legacy System Migration, Cloud Transformation, Domain-Driven Design, Strangler Fig Pattern

## Cloud & Infrastructure

- **AWS:** Lambda, ECS, S3, CloudFront, RDS, DynamoDB, API Gateway, Cognito, ECR, EventBridge, Bedrock, SageMaker, KMS, Secrets Manager, WAF, IAM, Shield
- **Azure:** Functions, App Service, Cosmos DB, Azure DevOps, Service Bus, Event Grid, Key Vault, Application Insights, AKS, Azure SQL
- **GCP:** Firebase, Cloud Run, GKE
- **Others:** Cloudflare (Zero Trust, DNS, WAF), Vercel, Netlify, DigitalOcean

## AI, Machine Learning & Prompt Engineering

- **LLMs & Agents:** GPT-4 (OpenAI), Claude (Anthropic), Gemini, Amazon Bedrock, Hugging Face, Langchain, Pinecone
- **AI Tools:** Claude Code, Gemini CLI, MCP (Model Context Protocol), AI Agent Development
- **Prompt Engineering:** Advanced prompt design, chain-of-thought reasoning, context optimization, RAG pipeline engineering
- **ML Platforms:** Amazon SageMaker, Pandas, scikit-learn, TensorFlow
- **Use Cases:** Code/infra generation, AI-powered DevOps, intelligent monitoring, security automation, conversational agents

## Software Architecture & System Design

- **Architectural Patterns:** Clean Architecture, Hexagonal Architecture (Ports & Adapters), Onion Architecture, Domain-Driven Design (DDD), CQRS, Event Sourcing
- **Distributed Architectures:** Microservices, Serverless, Event-Driven Architecture, Backend for Frontend (BFF), API Gateway, Service Mesh
- **Integration Patterns:** Enterprise Integration Patterns, Saga Pattern, Orchestration vs Choreography, Asynchronous Messaging, Event-Driven Communication
- **Protocols & APIs:** REST, GraphQL, gRPC, MQTT, WebSockets, OpenAPI/Swagger, AsyncAPI
- **Messaging & Event Streaming:** Apache Kafka, AWS Kinesis, Azure Service Bus, RabbitMQ, Redis Streams, Amazon EventBridge
- **Architecture Documentation:** C4 Model (Context, Container, Component, Code), Architecture Decision Records (ADR), Solution Architecture Documents (SAD), PlantUML, Mermaid
- **Governance & Quality:** Secure-by-Design, Threat Modeling (STRIDE, DREAD), SDLC Integration, Architecture Review Boards, Technical Debt Management
- **Compliance & Standards:** ISO 27001, PCI-DSS, LGPD/GDPR, SOC 2, NIST Cybersecurity Framework, Open Banking Standards

## DevSecOps & Infrastructure as Code

- **CI/CD**: GitHub Actions, GitLab CI, Azure DevOps Pipelines, Jenkins, CircleCI, Bitbucket Pipelines
- **IaC**: Terraform, AWS CDK (TypeScript), Pulumi, Ansible, CloudFormation, ARM Templates, Bicep, Helm, Kustomize
- **Containers & Security**: Docker, Kubernetes (EKS, AKS, K3s), Podman, Trivy, Dockle, Falco, OPA, Kyverno
- **Secrets Management**: Vault, AWS Secrets Manager, Azure Key Vault, SOPS, Chamber
- **Security Scanning**: Snyk, OWASP ZAP, SonarQube, npm audit, Bandit, Azure Security Center
- **Supply Chain**: Syft, Grype, Sigstore, Dependabot, Azure Artifacts

## Observability & SRE

- **Monitoring**: Datadog, Prometheus, Grafana, CloudWatch, Azure Monitor, Application Insights, VictoriaMetrics
- **Logging & Tracing**: OpenTelemetry, ELK Stack, Loki, Fluent Bit, Sentry, Jaeger, Azure Log Analytics
- **Practices**: SLIs/SLOs, MTTR optimization, Healthchecks, Error Budgets, Incident Response, Chaos Engineering

## Languages & Frameworks

- **Languages**: TypeScript, JavaScript (ES6+), C#, Python, Java, SQL, Bash, Go (basic)
- **Backend**: .NET Core, ASP.NET Core, Node.js, NestJS, Express, Spring Boot, FastAPI, Flask
- **Frontend**: React, Next.js, Angular, Redux Toolkit, TailwindCSS, Material UI, Storybook, Single-SPA, Blazor
- **Databases**: SQL Server, PostgreSQL, MySQL, Azure SQL, Azure Cosmos DB, DynamoDB, MongoDB, Redis, Kafka, Elasticsearch
- **.NET Ecosystem**: Entity Framework Core, Dapper, MediatR, AutoMapper, Polly, Serilog, xUnit, NUnit

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## Professional Experience

### Solutions Architect Specialist

**Banco Fibra** | São Paulo, Brazil (Hybrid)

**Sep 2025 – Present**

Solutions Architect Specialist focused on **enterprise architecture for the financial sector**, designing end-to-end systems combining **modernization, cloud-first strategies, and AI in production**.

### Key Responsibilities & Achievements:

- Architect **distributed and scalable systems** for core banking, digital channels, and mission-critical integrations
- Design **cloud-first architectures** on AWS (ECS, Lambda, Fargate, RDS, Bedrock) enabling innovation with operational efficiency
- Define **enterprise architecture standards** (microservices, BFF, event-driven, API-first) ensuring consistency, reusability, and governance
- Drive **AI integration for banking**, accelerating innovation in security, service personalization, and regulatory automation
- Implement **resilience, security, and compliance** with DevSecOps practices, observability, and regulatory alignment (Central Bank, LGPD, Open Finance)
- Lead **continuous architecture evolution**, bridging technology strategy with business objectives for scalable, digital-first transformation
- Leverage **AI-powered workflows** using Amazon Bedrock, Claude Code, and custom AI agents for accelerated development and operational intelligence

**Technologies:** AWS (ECS, Lambda, Bedrock, RDS, EventBridge), NestJS, Node.js, React, Terraform, Kubernetes, Clean Architecture, DDD, Datadog, OpenTelemetry

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### Solution Architect

**Ouribank** | Brazil (Hybrid)

**May 2024 – Aug 2025** (1 year 4 months)

Promoted to lead architecture for **strategic front-end and BFF initiatives** across multiple business units in digital banking platform.

### Key Responsibilities & Achievements:

- Designed **scalable, modular, event-driven architectures** using Clean Architecture, Hexagonal Architecture, and DDD
- Defined patterns for **multi-tenancy, BFF orchestration**, and domain segregation aligned with business capabilities
- Led architecture of systems deployed on **AWS ECS, Lambda, EventBridge, and API Gateway**
- Developed **architectural documentation and governance** using C4 Model, ADRs, and SADs
- Drove **infrastructure design** via Terraform and AWS CDK, introducing GitOps with ArgoCD
- Led architectural reviews, mentored tech leads, and aligned system roadmaps with stakeholder vision
- Promoted **observability-first mindset**: deployed Datadog dashboards, OpenTelemetry tracing, and proactive alerting
- Integrated **AI-powered code assistance** using Claude Code and custom MCP servers for accelerated development

**Technologies:** NestJS, React, Next.js, AWS, Kubernetes, Terraform, Datadog, Clean Architecture, DDD, CQRS

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### Senior Software Engineer

**Ouribank** | Brazil (Hybrid)

**Jan 2024 – May 2024** (5 months)

Developed **scalable BFF solutions** and integrated with Next.js-based React applications for digital banking platform.

### Key Contributions:

- Built **BFFs using NestJS** with high-performance design systems and modular component libraries
- Applied **Agile, DDD, BDD, and TDD** practices for robust front-end microservices delivery
- Ensured full **CI/CD integration** from design to deployment
- Enhanced user experience with **performance optimization** and modern frontend patterns

**Technologies:** NestJS, Next.js, React, TypeScript, AWS, Docker, Jest, Cypress

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### Senior Software Engineer

**Osten Moove** | Brazil (On-site)

**Nov 2022 – Dec 2023** (1 year 2 months)

Led **architecture and frontend engineering** for mobility platform.

#### Key Contributions:

- Designed **secure backend services and REST APIs**
- Improved **performance, UX, and mobile-first design**
- Collaborated with UI/UX designers and mentored junior developers
- Implemented **scalable frontend architecture** with React and TypeScript

**Technologies:** React, Node.js, TypeScript, PostgreSQL, Docker, AWS

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### Software Engineer (Mid-level)

**Osten Moove** | Brazil (On-site)

**Mar 2022 – Nov 2022** (9 months)

Delivered **full-stack features** and contributed to system architecture.

#### Key Contributions:

- Developed **backend and frontend features** using modern full-stack technologies
- Designed **UI/UX interactions** and responsive web design
- Participated in **backend server and database architecture**

**Technologies:** Node.js, React, PostgreSQL, Docker

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### Blockchain Engineer (Contract)

**Osten Verse** | Brazil (On-site)

**Nov 2022 – Aug 2024** (1 year 10 months)

Built **crypto transaction platforms** and blockchain-based signature solutions.

#### Key Contributions:

- Developed **smart contracts** (ERC20, Ethereum, BNB, Bitcoin)
- Built **crypto transaction systems** using NestJS, RabbitMQ, Docker
- Delivered **iOS/Android apps** for blockchain signature solution

**Technologies:** NestJS, Solidity, Web3.js, RabbitMQ, Docker, React Native

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### Full Stack Developer

**Freelancer.com** | Remote (Ireland)

**Jan 2019 – Jan 2022** (3 years)

Built **cross-platform full-stack applications** for global clients.

**Key Contributions:**

- Developed applications using **Node.js, React, Java, Spring Boot**
- Integrated **REST APIs** and mapping services (Google Maps, Mapbox)
- Delivered projects for diverse industries with high client satisfaction

**Technologies:** Node.js, React, Java, Spring Boot, PostgreSQL, AWS

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## Education

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### MBA in Solution Architecture

**Full Cycle** | Brazil  
**2024 – 2025** (Completed)

Comprehensive program combining **business administration with technical expertise** in software architecture, focusing on:

- Scalable and resilient systems aligned with business strategy
  - System design interviews, hybrid integrations, cloud-native architecture
  - Microservices, event-driven design, observability, secure enterprise applications
  - Database design (MongoDB, DynamoDB), Apache Kafka, serverless frameworks, edge computing
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### Higher Diploma in Science in Computing

**CCT College Dublin** | Dublin, Ireland  
**2019 – 2020**

**First-Class Honours Grade**

- Strong foundation in computer science and software engineering practices
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### Bachelor's Degree in Business Administration

**Universidade Metodista de São Paulo** | São Paulo, Brazil  
**2010 – 2012**

- Awarded **5th best overall grade** in college cohort
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### Computer Science (CS50x)

**Harvard University** | Remote  
**2021 – 2022**

- Completed foundational program in computer science
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# Certifications

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## Cloud & Infrastructure

- [AWS Certified Solutions Architect – Associate](#) (2025)
- [AWS Certified AI Practitioner](#) (2025)
- [AWS Certified Developer – Associate](#) (2023)
- [AWS Certified Cloud Practitioner](#) (2023)

## Artificial Intelligence & Automation

- [AI Agent Development](#) – Advanced AI agent architecture and implementation (2025)
- [Prompt Engineering Specialist](#) – Advanced prompt design and optimization (2025)

## Security & Networking

- [Cisco Ethical Hacker](#) – Cisco (Aug 2025)
- [Cisco English for IT 2](#) – Cisco (Aug 2025)
- [IT Security Specialist](#) (Mar 2020)

## Development & Operations

- [Docker Mastery: The Complete Toolset From a Docker Captain](#) (Sep 2019)
- [CompTIA A+ Cert Prep](#) (Feb 2020)
- [macOS for IT Administrators](#) (Mar 2020)
- [Apple Certified Mac Technician \(ACMT\)](#) (Sep 2018)
- [Apple Certified iOS Technician \(ACiT\)](#) (Sep 2018)

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# Key Projects

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## AI-Powered Banking Architecture

### [Solutions Architect Specialist | Banco Fibra](#)

Architected **AI-integrated banking systems** using Amazon Bedrock, Claude, and custom AI agents for:

- Intelligent [customer service automation](#) with context-aware responses
- [Regulatory compliance automation](#) using LLM-powered document analysis
- [Fraud detection](#) and anomaly detection with real-time AI monitoring
- [Personalized banking experiences](#) using AI-driven recommendations

**Technologies:** Amazon Bedrock, Claude, GPT-4, AWS Lambda, ECS, NestJS, Terraform, Kubernetes

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## Digital Banking Core Modernization

### [Solution Architect | Ouribank](#)

Led architectural redesign of **digital banking platform** using microservices, BFFs, and microfrontend-based architecture:

- Deployed on AWS with [Lambda, ECS, Cognito, EventBridge](#)
- Implemented [full-stack observability](#) (Datadog, OpenTelemetry)
- Integrated [security-first development](#) (IAM, WAF, KMS)
- Automated with [DevSecOps](#) (Terraform, OPA, CI/CD)

**Technologies:** NestJS, React, Node.js, AWS, Kubernetes, Clean Architecture, DDD, CQRS

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## AI-Powered Cybersecurity Agent for Pentesting Automation

### Solution Architect | Security Engineering & AI Integration

Designed and deployed **AI cybersecurity agent** using Model Context Protocol (MCP):

- Integrated with **Amazon Bedrock** via Dockerized MCP Server
- Exposed **structured vulnerability scan results** and pentest logs
- Enabled **automated vulnerability triage** and penetration test reporting
- Implemented **red team simulations** with AI-powered analysis

**Technologies:** MCP, Amazon Bedrock, Docker, Python, Claude, GPT-4, Trivy, OpenVAS, Nmap

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## AI-Powered DevOps Automation and Monitoring

### Solution Architect | Innovation & Tech R&D

Developed **intelligent agents powered by LLMs** for:

- **Code and infrastructure generation** with context-aware AI
- **CI/CD automation** with AI-driven decision making
- **RAG pipelines** for knowledge retrieval and documentation
- **Proactive anomaly detection** in observability platforms

**Technologies:** OpenAI GPT-4, Claude, Amazon Bedrock, Langchain, Pinecone, Terraform, GitHub Actions

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## Volunteering

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### Software Engineer | United Nations

Jan 2020 – Apr 2020

Developed **ERP School Management System** for refugee schools and students in underserved regions.

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## Honors & Awards

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- **First-Class Honours Grade** – CCT College Dublin (Jan 2020)
  - **The Dedicated Student Award** – English Studio Dublin (Jul 2018)
  - **Best Grades Award** – Universidade Metodista (Jan 2013)
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## Languages

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- **English:** Native or Bilingual
  - **Portuguese:** Native or Bilingual
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## Test Scores

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- **IELTS:** Score 8.0 (Dec 2018)
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## Additional Information

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- **Availability:** Immediate
- **Work Arrangement:** Open to Contract-to-Hire (CTL) or Legal Entity (PJ)
- **Work Preference:** Remote preferred, hybrid acceptable
- **Citizenship:** In process of obtaining Portuguese citizenship
- **Family:** Married with one daughter