

## **Fernando Francisco Azevedo**

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### **Professional Summary**

Solution Architect and Senior Software Engineer with over 16 years of global experience (Brazil, Europe, and Asia), delivering impactful, secure, and scalable software systems. Specialist in architecting cloud-native, event-driven, and enterprise-grade platforms using AWS, NestJS, Node.js, Next.js, React, and Microfrontends, with a strong focus on DevSecOps, automation, observability, and AI integration.

Recognized for designing robust, maintainable, and modular solutions using Clean Architecture, DDD, CQRS, and Hexagonal Architecture. Adept at implementing secure-by-design systems by embedding zero trust principles, IAM governance, threat modeling, and vulnerability scanning into the CI/CD lifecycle.

Extensive hands-on expertise in AWS (Lambda, ECS, Bedrock, Cognito, KMS, WAF), infrastructure as code (Terraform, CDK, Pulumi), container orchestration (Docker, Kubernetes, EKS), and full observability stacks (Datadog, OpenTelemetry, Prometheus). Passionate about security automation, compliance (PCI-DSS, ISO 27001), and software supply chain integrity.

Advanced experience with NestJS as a core backend framework, building scalable BFFs, REST/GraphQL APIs, microservices, and AI-integrated services. Delivered mission-critical applications using NestJS in domains such as digital banking, blockchain, and cybersecurity.

Pioneer in integrating LLMs (GPT-4, Claude, Amazon Bedrock) with production systems. Built custom MCP Servers to securely expose contextual data to AI agents, enabling intelligent workflows for pentesting automation, DevOps, and real-time developer assistance.

Polyglot engineer fluent in TypeScript, JavaScript, Python, Java, C#, and SQL, with experience across modern backend frameworks (Spring Boot, .NET Core, Express, Flask) and frontend technologies (Next.js, React, TailwindCSS).

Bilingual team leader and communicator with a strong history of mentoring, architectural governance, and cross-functional collaboration. Currently completing an MBA in Solution Architecture (Full Cycle), consolidating expertise in distributed systems, secure architecture, event-driven design, and strategic alignment of technology and business.

## Technical Skills

### Cloud & Infrastructure

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

### DevSecOps, Automation & Infrastructure as Code

- CI/CD: GitHub Actions, GitLab CI, Jenkins, CircleCI, Bitbucket Pipelines
- Infrastructure as Code: Terraform, AWS CDK (TypeScript), Pulumi, Ansible, CloudFormation, Helm, Kustomize
- Containers & Security: Docker, Kubernetes (EKS, K3s), Podman, Trivy, Dockle, Falco, OPA, Kyverno
- Secrets & Access Control: Vault, SOPS, AWS Secrets Manager, Chamber, Mozilla SOPS, dotenv-expand
- Static/Dynamic Scanning: Snyk, OWASP ZAP, SonarQube, npm audit, Bandit
- SBOM & Supply Chain: Syft, Grype, Sigstore, GitHub Dependabot, GitLab Dependency Scanning
- Automation & Utilities: Makefile, ShellScript, GitOps, ArgoCD, yq/jq, Tilt

### Software Architecture & System Design

- Patterns: Clean Architecture, Hexagonal Architecture (Ports & Adapters), Onion Architecture, Serverless, Event-Driven, Microservices, BFF, DDD, CQRS, Event Sourcing, Saga Pattern
- Messaging: Kafka, Kinesis, RabbitMQ, gRPC, GraphQL, REST, MQTT, Redis Streams
- Documentation: C4 Model, Architecture Decision Records (ADR), SAD, GMUDs, Markdown, PlantUML
- Governance: Secure-by-Design, Threat Modeling, SDLC integration, security SLAs, incident lifecycle
- Compliance: GDPR, LGPD, PCI-DSS, ISO 27001, NIST CSF, OWASP ASVS & MASVS

### Observability & SRE

- Monitoring: Datadog, Prometheus, Grafana, CloudWatch, Zabbix, VictoriaMetrics
- Logging & Tracing: OpenTelemetry, ELK Stack, Loki, Fluent Bit, Sentry, Jaeger
- Practices: SLIs/SLOs, MTTR, Healthchecks, Error Budgets, Incident Response, PagerDuty, Opsgenie

### Artificial Intelligence & Automation

- LLMs: GPT-4 (OpenAI), Amazon Bedrock, Claude, Hugging Face, Langchain, Pinecone

- ML/AI Platforms: SageMaker, Pandas, scikit-learn, TensorFlow (basic)
- Use Cases: Code/infra generation, RAG pipelines, AI agents for support/ops, observability anomaly detection
- Scripting: Python, Bash, AI triggers in CI/CD workflows

## Languages & Frameworks

- Languages: TypeScript, JavaScript (ES6+), Python, Java, C#, SQL, Bash, Go (basic), HTML, CSS/SASS
- Back-End: Node.js, NestJS, Express, .NET Core, Spring Boot, FastAPI, Flask
- Front-End: React, Next.js, Redux Toolkit, TailwindCSS, Material UI, Storybook, Single-SPA
- API Tools: Postman, Insomnia, Swagger/OpenAPI, GraphQL Playground, gRPC CLI

## Databases & Storage

- SQL: PostgreSQL, MySQL, MariaDB, SQL Server, Oracle, SQLite
- NoSQL: MongoDB, DynamoDB, Redis, Firebase, CouchDB, Cassandra (conceptual)
- Event & Analytics: Apache Kafka, Kinesis, EventBridge, Redshift, TimescaleDB, Elasticsearch, Parquet
- ORMs: Prisma, TypeORM, Sequelize, Hibernate, Knex.js

## Security Engineering & DevSecOps

- IAM & Access Control: AWS IAM, OIDC, OAuth 2.0, JWT, Keycloak, Auth0, Azure AD
- Security Scanning & Testing: Snyk, Trivy, ZAP, SonarQube, npm audit, Bandit
- Secure Dev Practices: Least privilege, secret rotation, WAF, rate limiting, secure headers
- Runtime Security: Falco, OPA, AppArmor, seccomp, KubeBench, KubeHunter
- Policy as Code: Rego (OPA), Kyverno
- VPN & Zero Trust: Tailscale, WireGuard, Cloudflare Zero Trust

## Developer Experience & Tooling

- Git, GitFlow, Semantic Versioning
- Quality: ESLint, Prettier, Husky, Commitlint, Conventional Commits
- Testing: Jest, Cypress, Playwright, Vitest, Supertest
- Docs & Collaboration: Docusaurus, Compodoc, Notion, Figma-to-code, Markdown
- IDEs/Terminals: VSCode, IntelliJ, WebStorm, Warp, iTerm2
- Agile/PM Tools: Jira, Trello, Notion, ClickUp, Miro

## Professional Experience

### **Solution Architect – Ouribank**

May 2024 – Present | Hybrid – Brazil

- Promoted to lead architecture for strategic front-end and BFF initiatives across multiple business units.
- Responsible for designing scalable, modular, and event-driven architectures using Clean Architecture, Hexagonal Architecture, and DDD principles.
- Defined patterns for multi-tenancy, BFF orchestration, and domain segregation aligned with business capabilities.
- Led the architecture of systems deployed via AWS ECS, Lambda, EventBridge, and API Gateway.
- Developed documentation and governance using the C4 Model, ADRs, and SADs to ensure maintainability and business alignment.
- 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, tracing via OpenTelemetry, and proactive alerting standards.

### **Senior Software Engineer – Ouribank**

Jan 2024 – May 2024 | Hybrid – Brazil

- Developed scalable BFF solutions using NestJS and integrated with Next.js-based React applications.
- Enhanced user experience with high-performance design systems and modular component libraries.
- Applied Agile, DDD, BDD, and TDD practices for delivery of robust front-end microservices.
- Oversaw delivery from design to deployment, ensuring full CI/CD integration.

### **Senior Software Engineer – Osten Moove**

Nov 2022 – Dec 2023 | On-site – Brazil

- Led architecture and frontend engineering.
- Created secure backend services and REST APIs.
- Improved performance, UX, and mobile-first design.
- Collaborated with UI/UX designers and mentored developers.

### **Software Engineer (Mid-level) – Osten Moove**

Mar 2022 – Nov 2022 | On-site – Brazil

- Delivered backend/frontend features using full stack.
- Designed UI/UX interactions, responsive web design.

- Participated in backend server and DB architecture.

### **Blockchain Engineer – Osten Verse (Contract)**

Nov 2022 – Present | On-site – Brazil

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

### **Full Stack Developer – Freelancer.com**

Jan 2019 – Jan 2022 | Remote – Ireland

- Built cross-platform full-stack apps with Node, React, Java, Spring.
- Worked with REST APIs, Map integrations (Google Maps, Mapbox).

### **Resource Planning Admin – Derrycourt Cleaning Specialists**

Jul 2020 – Apr 2021 | Full-time – Ireland

- Managed Salesforce & TMS planning for regional field teams.

### **Customer Service Representative – General Services**

Feb 2017 – Jul 2020 | Full-time – Ireland

- Delivered top-tier client support and handled complaint resolution.

## **Education**

### **MBA in Solution Architecture – Full Cycle**

2024 – 2025 | Brazil

Grade: MBA in Solution Architecture

- This program combines business administration with technical expertise in software architecture.
- Focused on scalable and resilient software aligned with business strategy, system design interviews, hybrid integrations, and cloud-native architecture.
- Covered microservices, event-driven design, observability, and secure enterprise applications.
- Emphasis on database design (MongoDB, DynamoDB), Apache Kafka, serverless frameworks, and edge computing (CDN, IoT).
- Included industry expert lectures on modernization and advanced system design principles.

### **Higher Diploma in Science in Computing – CCT College Dublin**

2019 – 2020 | Dublin, Ireland

- First-Class Honours Grade

- Strong foundation in computer science and software engineering practices.

### **Bachelor's Degree in Business Administration – Universidade Metodista de São Paulo**

2010 – 2012 | São Paulo, Brazil

- Awarded 5th best overall grade in college cohort.

### **Computer Science CS50x – Harvard University (Remote)**

2021 – 2022

- Completed foundational program in computer science.

### **Associate Degree in English Language – The English Studio Dublin**

2017 – 2018 | Dublin, Ireland

### **Certifications**

- Docker Mastery: The Complete Toolset From a Docker Captain (Sep 2019)
- Become an IT Security Specialist (Mar 2020)
- macOS for IT Administrators (Mar 2020)
- Advanced Skills as an IT Help Desk Specialist (Feb 2020)
- CompTIA A+ Cert Prep (Feb 2020)
- Apple Certified Mac Technician – ACMT (Sep 2018)
- Apple Certified iOS Technician – ACiT (Sep 2018)
- macOS Support Essentials 10.13 – High Sierra (Jul 2018)

### **Key Projects**

#### **Digital Banking Core Modernization**

*Solution Architect · Financial Services Sector*

- Led the architectural redesign of a digital banking platform using microservices, BFFs, and microfrontend-based architecture. Deployed on AWS with Lambda, ECS, Cognito, and EventBridge, incorporating full-stack observability (Datadog, OpenTelemetry), security-first development (IAM, WAF, KMS), and DevSecOps automation (Terraform, OPA, CI/CD).

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

#### **AI-Powered Cybersecurity Agent for Pentesting Automation**

*Solution Architect · Security Engineering & AI Integration*

- Designed and deployed a cybersecurity-focused AI agent using the Model Context Protocol (MCP) to interface with internal security tools and test environments. The agent, powered by Amazon Bedrock, was integrated via a Dockerized MCP Server that exposed structured vulnerability scan

results, pentest logs, and real-time access to threat intelligence feeds. Enabled contextual LLM interaction for automated vulnerability triage, penetration test reporting, and red team simulations. Emphasized secure data access, audit logging, and operational isolation.

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

## Blockchain-as-a-Service (BaaS) Platform

*Solution Architect · Web3 and Crypto Sector*

- Designed and implemented a blockchain-as-a-service platform supporting enterprise token issuance and smart contract management. Delivered on a secure, scalable infrastructure with GitOps workflows and policy-based security enforcement.

**Technologies:** AWS, Kubernetes, Ethereum, Web3.js, NestJS, GitHub Actions, Vault

## NFT Marketplace and Launchpad Ecosystem

*Full Stack Engineer · Web3 Ecosystem*

- Built a secure NFT trading platform with wallet-based authentication, multi-chain support, and an integrated launchpad for new blockchain projects. Included auction mechanics, on-chain auditability, and decentralized storage.

**Technologies:** Solidity, React, Node.js, IPFS, Serverless Framework, Firebase

## Digital Signature Platform using NFTs

*Technical Lead · Digital Identity & Web3 Startups*

- Delivered an e-signature solution powered by NFTs for contract validation and identity assurance. Features included decentralized authentication, revocation logic, QR-based access, and integration with mobile applications.

**Technologies:** AWS Lambda, Cognito, React Native, Ethers.js, NFT standards

## AI-Powered DevOps Automation and Monitoring

*Solution Architect · Innovation & Tech R&D*

- Developed intelligent agents powered by LLMs (e.g., GPT-4, Claude) for code generation, CI/CD automation, RAG pipelines, and proactive anomaly detection. Used in platform engineering to improve developer experience and incident response.

**Technologies:** OpenAI, Amazon Bedrock, Langchain, Pinecone, Terraform, GitHub Actions

## Observability Layer for Distributed Systems

*Senior Engineer · Platform Engineering & SRE*

- Implemented a robust observability layer across microservice-based systems with metrics, logs, and traces. Aligned with SRE best practices including SLOs, MTTR reduction, incident response automation, and dynamic alerting.

**Technologies:** Prometheus, Grafana, Datadog, OpenTelemetry, Fluent Bit, Kubernetes

### Volunteering

#### **United Nations – Software Engineer**

Jan 2020 – Apr 2020

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

### Honors & Awards

- 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)

### Test Scores

- IELTS: Score 8.0 (Dec 2018)

### Languages

- English: Native or bilingual
- Portuguese: Native or bilingual

### Additional Information

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