

PAULO MARQUES

FULL STACK SOFTWARE ENGINEER | REACT.JS, NEXT.JS, NODE.JS & TYPESCRIPT | 3D WEB (THREE.JS/WEBGL/WEBGPU) | AI AGENTS & AUTOMATION

+55 98 98233-6969 | paulo.joseph@hotmail.com | linkedin.com/in/paulojfmarques | paulomarkues.io | São Luís, Brazil

Senior Software Engineer combining modern Full Stack mastery with a 20-year trajectory in corporate environments, specifically within the Utilities & Engineering (AEC) sectors. Leveraging over a decade of complex data engineering and process auditing experience at a major Utility Holding (Equatorial Energia), I specialize in building high-performance web applications that handle massive datasets and integrate Spatial Computing (WebGL/WebGPU/Three.js). My diverse background allows me to bridge the gap between rigorous engineering requirements and intuitive user interfaces, delivering code that is robust, secure, and scalable.

TECHNICAL SKILLS

- Frontend Ecosystem: React.js, Next.js (App Router), TypeScript, React Native, Tailwind CSS, State Management (Zust/Context API), Micro-frontends.
- 3D & Spatial Computing: Three.js, React Three Fiber (R3F), WebGL, Shaders (GLSL), Canvas API, WebGPU (Prototyping).
- AI & Automation: AI Agents, LLM Integration (OpenAI/Anthropic), n8n Workflow Automation, RAG, LangChain.
- Backend & Cloud: Node.js, Serverless Functions, PostgreSQL, Prisma ORM, SQL (Oracle PL/SQL), REST API, GraphQL.
- Engineering Practices: CI/CD (GitHub Actions), Docker, TDD (Jest), SOLID Principles, Clean Architecture, Agile/Scrum.

PROFESSIONAL EXPERIENCE

Full Stack Software Engineer, Freelance

Aug 2022 - Present

- Delivering custom software solutions for a diverse client base, ranging from high-performance marketing interfaces to complex SaaS applications;
- Web Application Development: Building modern, responsive web applications using React, Next.js, and Tailwind CSS. Focused on SEO, accessibility, and Core Web Vitals optimisation;
- Complex UI Engineering: Developed a 3D surgical planning tool (Endomap MVP) using Three.js/WebGL, solving complex geometry and rendering challenges in the browser;
- Automation Services: Creating custom automation scripts and chatbots using AI Agents (LLMs) and n8n to streamline client workflows.

Senior Risk & Internal Control Specialist, Grupo Equatorial Energia

Nov 2014 - Present

- Process Auditing & GRC: Implemented the corporate Risk Management framework based on COSO ERM and ISO 31000. Responsible for mapping critical engineering processes (BPMN) and recommending automated internal controls to mitigate operational risks;
- Data-Driven Auditing: Transitioned the audit methodology from manual sampling to Continuous Auditing. Used SQL and ACL Analytics to audit 100% of transactional data, identifying anomalies and process deviations in real-time;
- Migration Assurance: Audited the integrity of data migration projects from legacy systems to SAP. Created validation scripts to ensure zero data loss and compliance with engineering standards.

Automation & Process Specialist, Grupo Equatorial Energia

Jun 2010 – Nov 2014

- VBA & Macro Development: Developed a suite of VBA applications to automate administrative workflows (Payroll/Budgeting), reducing processing time by 99% and eliminating human error;
- System Integration: Created scripts to consolidate data from SAP and legacy systems, ensuring data integrity for ISO 9001 audits.

Technical Support & Automation, Tecnosistem (Retail Automation Tech)

Jan 2005 – Jun 2010

- Retail Automation Management: Managed the full lifecycle of retail technology for clients, integrating Fiscal Printers (ECF), EFT (TEF), and ERP systems;
- Advanced Troubleshooting: Served as the focal point for critical hardware/software incidents and performed local network implementation.

EDUCATION

BTech in Analysis & Systems Development | UNDB

Jan 2020 – Jun 2022

- Core Engineering: Strong foundation in Object-Oriented Programming (OOP/Java), Software Architecture, System Modelling (UML), and Design Patterns (GoF);
- SDLC & Security: Developed information systems focusing on the full Software Development Life Cycle (SDLC) and security best practices;
- Data Science & AI: Applied studies in Data Mining, Statistics, and Machine Learning to support the creation of predictive indicators;
- Algorithmic Proficiency: Solved complex algorithmic challenges (LeetCode style) using Python through constant practice and competitions.

MBA in Auditing & Control | Excellence Business School

Feb 2015 – Feb 2017

- Governance Analytics: Specialisation in financial data analysis and predictive modelling for Corporate Governance (GRC).

Bachelor in Business Administration | Ceuma University

Jan 2008 – Dec 2012

- Process Engineering: Focused on the analysis and optimisation of workflows, developing a systemic view of business operations.

CERTIFICATIONS & LANGUAGES

- Full-Stack Engineer Career Path | Codecademy;
- Ultimate Next.js 13 Course | JavaScript Mastery (2023);
- ISTQB Certified Tester Foundation Level (CTFL);
- Google Cloud Computing (GCP) | Coursera;
- Data Scientist: Analytics Specialist Career Path | Codecademy.
- Portuguese (Native), English (Professional), Spanish (Professional).