TIAGO PEREIRA

Senior Full Stack Developer

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20 products shipped | 12 brands, 106 airline pages | 50+ mentored | Leads a team of 4

Full Stack Developer leading a team of 4 at Sanjow, building software since 2020: React/Next.js, Node.js and Python products that serve live customer traffic, from payment platforms to browser automation and AI features.
Before and alongside that, 8 years in civil engineering (2014 to 2022): infrastructure projects, field teams and structural diagnosis.

01 EXPERIENCE

SITE RECORD

Full Stack Developer & Team Lead

2022 — Present

Sanjow · Hybrid

Next.js · React · TypeScript · Node.js · Express.js · PostgreSQL · Prisma · BullMQ · Redis · Playwright

- PostgreSQL: an hourly database search went from 818 ms to 3 ms, thanks to an index built while the database stayed open for reading and writing.
- BullMQ: when a check-in failed, two parts of the system each retried it three times, so one booking could be tried nine times. Now only one part keeps count: three tries.
- Multi-tenant, white-label: the same website runs every brand, each with its own look, in 8 languages. Logging in sometimes failed: in testing, only 3 of 12 tries reached the account. The cause was a timing problem while saving the login; after the fix, 12 of 12 worked.
- Payments: when a payment is confirmed hours late, one rule shared by both payment providers checks for a duplicate or a changed price before the money is taken or released.
- Lead a team of 4: code review, architecture, and mentoring
- Production AI features with OpenAI, Gemini, and the Vercel AI SDK
- A/B testing with split-URL experiments in the funnels; Lighthouse and field-data tooling for performance
- Recent work: the Member Zone's subscription state, a new check-in flow rolled out airline by airline behind a flag, end-to-end tests that inject failures through a mock server, and a CI secret scan that reads only each pull request's own commits

Scale, as-built 2026-11: 101 Prisma models; 51 BullMQ queues; 50 scheduled jobs; 12 check-in workers; 8 locales.

Freelance Full Stack Developer

2020 — Present

Self-Employed · Remote

Next.js · React · TypeScript · Python · FastAPI · Tailwind CSS · GSAP · Framer Motion · Node.js · PostgreSQL

- Built an AI bill-extraction tariff comparator (Google Gemini) and a Python trading-research system that runs unattended
- Real-time apps with WebSockets, GPS integration, and payment systems

Teaching Assistant

2020 — 2021

IronHack · Lisbon, remote (part-time)

JavaScript · React.js · Node.js · Express.js · MongoDB · Mongoose

- Guided students through full stack web development bootcamp
- Code reviews and pair programming sessions

Civil Engineer

2014 — 2022

Multiple Companies · Portugal

- LNEC: Airport rigid pavements research (2014-2015)
- Grupo H24: Structural engineering challenges (2015-2016)
- OZ Diagnostico: Building pathology diagnostics (2016-2017)
- BuildingClass: Head of Building Pathology Diagnosis (2017-2018)
- DDN/Aguas de Cascais: Water infrastructure supervisor (2018-2022)

Transferable: Team leadership, complex problem diagnosis, client communication, budget management, deadlines, documentation

02 KEY PROJECTS

AS-BUILT REGISTER

SH-02P **Payment & Travel Platforms** — PAYMENTS / SAAS

Production work at Sanjow on payment and travel platforms that several brands share, serving live customer traffic. My part: I built most of the check-in service and of the online ticket shop. On the shared platform API, as one of its main developers, I work on check-ins, payments and bookings, customer messages and database speed.

General arrangement drawn at tiagodcpp.com/work/payment-travel-platforms

W-01 **PoupaNaEnergia** — AI / ENERGY

An independent electricity-tariff comparator for the Portuguese market. Users upload a power bill, a Gemini-powered pipeline extracts their consumption, and a regulatory engine fed by ERSE data synced daily ranks fixed-price plans by real annual cost.

Next.js 16 · React 19 · TypeScript · Tailwind CSS 4 · shadcn/ui · Supabase · PostgreSQL · Google Gemini API

W-04 **Stock Robot** — AI / FINTECH

A Python robot that runs unattended and speaks only when there is something to do. Today it is two things: a stop guardian that checks the stops on single stocks and coins every hour, and a long-term thesis book kept on paper, where an LLM reads each new annual filing against the deal-breakers stored with its thesis. The short-term engine was retired after paper testing showed no edge. Runs 24/7 as a daemon since March 2026 and is still being built, behind tests that keep a stop from ever being lowered.

Python · pandas · numpy · TA-Lib · APScheduler · python-telegram-bot · pydantic · yfinance

W-05 **PDF API** — API / DOCUMENTS

A public FastAPI service that compresses, converts, OCRs, redacts, protects and repairs PDFs. Heavy tools run as subprocesses with timeouts, and repair runs in a separate process under a memory limit, so a hostile file cannot take the worker down. It ships to Cloud Run through a keyless pipeline whose smoke test demands a 401.

Python · FastAPI · PyMuPDF · pikepdf · OCRmyPDF · Ghostscript · Tesseract · LibreOffice

W-06 **Second Brain** — AI / TOOLING

A persistent-memory system that gave an AI coding agent long-term recall across sessions. Hooks distilled each session into a versioned wiki; an MCP server served hybrid retrieval — BM25 plus Qdrant semantic search, fused and reranked with a cross-encoder. Grew to a 632-page corpus; retired in September 2026 after its own metrics showed most pages went unread.

Python · MCP · Qdrant · BM25 · fastembed · ONNX · Claude Code CLI · Bash

W-07 **School's Cool** — EDUCATION

A 2021 intranet for an Amsterdam mentoring foundation: channels with posts and votes, events, a shared file library, 1:1 chat and role-based admin, behind a Passport login. Built with a friend, and I was the one who integrated it.

React 17 · React Router 5 · Semantic UI · Bootstrap 5 · Socket.IO 4 · Node.js · Express 4 · Passport

03 TECHNICAL SKILLS

MATERIALS

Languages	JavaScript, TypeScript, Python, SQL
Frontend	React.js, Next.js, Tailwind CSS, GSAP, Framer Motion, Zustand, shadcn/ui, Chakra UI, Mantine, React Query, React Hook Form, Zod, next-intl
Backend	Node.js, Express.js, FastAPI, PostgreSQL, MongoDB, Prisma, Supabase, Redis, BullMQ, REST APIs, Stripe, WebSockets
Testing/DevOps	Vitest, Jest, Playwright, Lighthouse CI, A/B Testing, Git/GitHub, Docker, GitHub Actions, Vercel, Google Cloud Run, AWS S3, OpenTelemetry, Sentry, Cloudflare
Auth & AI	JWT, Auth.js (NextAuth), Clerk, Supabase Auth, Passport.js, OpenAI API, Anthropic Claude API, Google Gemini API, Vercel AI SDK, LangChain, MCP, RAG / Vector Search (Pinecone), pandas / numpy

04 EDUCATION

QUALIFICATIONS

Full Stack Web Development Bootcamp — 2019 — 2020
IronHack, Lisbon

MSc in Structures and Geotechnics — 2011 — 2014
Universidade Nova de Lisboa FCT

BSc in Civil Engineering — 2007 — 2011
Universidade da Beira Interior

Languages: Portuguese (Native), English (Advanced)