

Tarcísio G. Rodrigues

Senior Software Engineer

✉ tarcisio@cetacea.tech
in [Tarcísio G. Rodrigues](#)
📖 [stackoverflow/tarc](#)
git [codeberg/tarcisio](#)
🐙 [github/tarc](#)

Overview

Senior backend engineer with 10+ years building low-latency, high-reliability systems in fintech (payments, market data, risk analysis). Currently focused on AI-native engineering workflows: adopting spec-driven development with AI coding agents, and contributing upstream to open-source developer and agent tooling.

Employment

- 2026 **Software Engineer**, *Cetacea*, São Paulo, Remote
- Designed and developed .NET (C#) backend services for the customer ticket lifecycle, plus middleware that interfaces with the Matrix communication service.
 - Built and maintained a React/TypeScript/GraphQL frontend layer, adding a dedicated real-time widget to speed up customer onboarding.
 - Led adoption of spec-driven development (SDD), authoring the initial spec templates and establishing the review workflow.
 - Helped adapt the team's workflow and mindset to the concepts and capabilities of the gsd-core SDD framework, such as its discuss-plan-execute-verify loop and persistent planning artifacts.
 - Made the setup work out of the box with both Claude Code and OpenCode.
- 2025–2026 **Software Engineer**, *Mottu*, São Paulo, Hybrid
- Built .NET (C#) backend services to integrate with both Santander's PIX payment infrastructure and BBVA México's payment services.
- 2024–2025 **Software Engineer**, *mParticle*, New York, Remote
- Developed Java backend services, with some JavaScript frontend work, for a distributed query system that extracts marketing analytics (audience segmentation, funnel analysis) from large-scale customer event data.
- 2016–2023 **Software Engineer**, *XP Inc.*, São Paulo
- Implemented market data feed software in C++ with Boost (Asio, Signals2, Multi-Index, ICL), QuickFIX, QuickFAST and SBE reference implementations. Worked with market data protocols, FIX/FAST and SBE encodings, and B3's UMDF platform. Designed and developed software infrastructure to integrate backend and frontend services, employing .NET microservices, Kafka, MongoDB, Docker, Kubernetes and WebSockets.
- 2014–2016 **Software Engineer**, *FIT – Institute of Technology*, Sorocaba
- Developed a C++ library for payment applications. Wrote CMake and Python scripts for build automation. Worked with the EMV standard and Verifone's SDK.
- 2014 **Software Engineer**, *MAPS – Financial Market Solutions*, São Paulo
- Developed risk analysis software in C++/MFC and maintained Jenkins CI.
- 2013–2014 **Software Engineer**, *IGS – International Gaming Solutions*, São Paulo
- Built an embedded C++/Boost backend for bingo machines and its Buildbot CI, and ported legacy C code to Linux.

2012–2013 **Software Analyst**, *FiberWork – Optical Communications*, Campinas
Developed Android apps and embedded Java software for optical network test units.

Projects and open source

- 2026 **Author**, *carimbo*, LLM extraction of Brazilian invoices, .NET and Python
- Built a pipeline that extracts NF-e invoices from DANFE PDFs with Claude into schema-validated records, checked by deterministic validators (check digits, access key vs. fields, tax arithmetic) and a bounded repair loop that never reveals identifiers to copy.
 - Measured it with a reproducible eval suite and per-run cost tracking. In live runs, validators turned misread access keys from silent successes into flagged failures.
 - Built with spec-driven development (*gsd-core*) and Claude Code.
- 2026 **Contributor**, *FactorSeal (Cachix)*, hardware-backed secrets vault, Rust
- Fixed reliability bugs in the browser extension, approval flow and SecretSpec integration in a 12-commit PR (#41), such as reconnecting after a lost native host or session.
- 2025–2026 **Contributor**, *devenv (Cachix)*, Nix-based developer environments, Rust and Nix
- Added Claude Code options for the primary agent and per-agent effort, with validation, tests and docs (#3069).
 - Fixed a WSL2 interactive shell crash caused by a transient 0x0 terminal size (#3158).
 - Added a treefmt integration (#2238) and an `allowUnsupportedSystem` option (#2639).
- 2026 **Contributor**, *gsd-core*, spec-driven development framework for AI coding agents
- Reported two confirmed bugs in `/gsd-pr-branch` and submitted fixes (#4605, #4606); maintainers folded them into a broader epic whose final fix adapted my diagnoses (#4986).
 - Root-caused and fixed a CI workflow that had failed on every scheduled run (#5035).

Education

- 2008–2010 **MSc in Philosophy**, *University of Campinas (Unicamp)*, Campinas
In the area of Mathematical Logic, with a dissertation on logic programming.
- 2002–2007 **BEng in Computer Engineering**, *Unicamp*, Campinas

Technical highlights

AI tooling	Claude Code, OpenCode, SDD (<i>gsd-core</i>), prompt and context engineering
Programming	C#/.NET, C++, Java, Python, TypeScript/Node.js
Backend	ASP.NET Core, gRPC, REST, GraphQL, Boost/Asio, OAuth, JWT
Distributed	Kafka, RabbitMQ, LMAX Disruptor, <code>io_uring</code> , <code>libuv</code>
Data	PostgreSQL, SQL Server, MongoDB, Redis
Observability	Datadog, Grafana, Prometheus, distributed tracing, APM
DevOps	Docker, Kubernetes, ArgoCD, Nix/NixOS, GitHub Actions, Jenkins, GCP, AWS
Fintech	PIX payment APIs, FIX/FAST/SBE, B3's UMDF platform, EMV
Practices	DDD, CQRS, TDD, Clean Code, Scrum, Kanban

Languages

English (fluent), Portuguese (native), Spanish (conversational)