

# Marcos Benevides | Software Engineer

Rondônia / Brazil

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## Executive Summary

Software engineer with over 8 years of experience focused on **functional programming** and **declarative infrastructure**. I like to solve hard/bizarre problems and my skills often shine when integrating niche tech, such as:

- Being a core developer of [Lyceum](#), an experimental MMO RPG built atop Erlang, Zig, Nix/NixOS and PostgreSQL (with [omnigres](#)). I also maintain [Chessboard](#), the NixOS-based server (provisioned with Tofu) where we run our game's live demos.
- Currently developing [Chrysopolis](#), an attempt to integrate the BEAM into the [seL4 microkernel](#), using Nix, Zig and [LionsOS](#). Creating a verified foundation for deploying Erlang/Elixir/Gleam applications.

My work seeks to converge code, academic concepts and solid mathematical foundations, leveraging the most robust aspects of Computer Science to create resilient systems. I'm here to deliver only what is promised, with simple abstractions and minimal overhead.

## Skills

**Architecture** Design Monolithic and Distributed solutions.

**Cloud Platforms** AWS, Azure, Digital Ocean, fly.io, Heroku, Vultr.

**DBA** *Languages* (SQL, Prolog), *RDBMS* (PostgreSQL, SQL Server, SQLite)

**Devops** *Infra* (Guix, Linux, NixOS), *Tools* (Docker, Kafka, Kubernetes, Shell, Terraform), Automation (CI/CD).

**Frontend** *Languages* (Javascript, Elm), *Frameworks* (React, HTMx).

**Management** Technical Leadership and Mentoring.

**Programming** *Functional* (Elixir, Erlang, Gleam, F#, Nix, OCaml), *Object Oriented* (C#, Python), *Low-Level* (C / Zig).

## Employment

### Buzzlabs

São Paulo, Brazil (Remote)

Researcher, Freelancer

Jul 2026 – Oct 2026

- I was hired to be a (freelancer) researcher, focused on bootstrapping an experimental purely functional declarative infrastructure that leveraged both Open Tofu, [Guix](#) and [Guile Scheme](#) modules.
- Worked with their internal team to integrate one of their Clojure applications in this newly created infrastructure.

### TradeKart

London, United Kingdom (Remote)

Software Engineer, Contractor

Dec 2025 – Jun 2026

- Partnered with the CTO to reduce technical debt across core services, improving release reliability and enabling faster delivery for a growing engineering team.
- Standardized DevOps infrastructure and backend operating practices across core services, improving deployment consistency and creating a repeatable foundation for expansion.
- Acted both as an F# Backend Developer and DevOps Engineer.

### Terrateam/Stategraph

Amsterdam, North-Holland (Remote)

OCaml Developer, Contractor

Apr 2025 – Dec 2025

- Originally joined as a freelancer to [implement SCRAM authentication for PostgreSQL](#) (to improve secure database connections in their custom PostgreSQL library).
- Refined comment-related features that drive workflows for the main TACOS (Terraform Automation and Collaboration Software) product.

### Divisions Maintenance Group

Ohio, United States (Remote)

Technical Lead, Full-Time Employee

Jul 2024 – Apr 2025

- Promoted to Technical Lead for a financial services area, guiding delivery priorities, coordinating engineering effort, and supporting execution across the team.

### Divisions Maintenance Group

Ohio, United States (Remote)

Software Development Engineer 2, Full-Time Employee

Apr 2022 – Jul 2024

- Developed F# and C# backend services supporting legacy modernization and operational stability across a large monorepo.
- Resolved deep-seated defects in a legacy monorepo and decadelong database layer, improving system stability and reducing recurring troubleshooting effort.
- Implemented new projects to transition from our outdated systems, incorporating immutable architectures based on functional programming principles.
- Built internal tooling to reproduce microservice issues locally, accelerating debugging and improving engineering efficiency across services.

**datarisk.io**  
*Lead DevOps Engineer, Contractor*

**Florianópolis, Brazil (Remote)**  
*Nov 2020 – May 2022*

- Led a cloud migration from AWS to Azure, remediating undocumented infrastructure and establishing monitoring, cost controls, and infrastructure-as-code practices.
- Completed the migration to Azure in under two years, adding observability, cost controls, and infrastructure-as-code to improve reliability and manageability.
- Reduced our cloud-billing by 80%.
- Owned infrastructure operations end-to-end and built the documentation needed to support maintenance, onboarding, and continuity.
- Mentored my interns until they were able to safely replace me (and be promoted).
- F# and Python Backend Developer.

**datarisk.io**  
*Software Engineer, Contractor*

**Florianópolis, Brazil (Remote)**  
*Oct 2019 – Nov 2020*

- Joined as the 3rd engineer (and first remote hire), then progressed from Python backend work into Lead DevOps ownership as the company scaled.

**FIEMA/CEUMA**  
*Internships and Java Development Gig*

**São Luís, Brazil**  
*Feb 2018 – Nov 2018*

Education

**UFMA - Universidade Federal do Maranhão**  
*B.S. in Computer Science*

**São Luís, Brazil**  
*Apr 2013 – Jun 2019*

- During my undergraduate years, I was an active member of a [Study Group on Logic and Formal Philosophy](#), a multi-disciplinary initiative headed by our Department of Philosophy. I've also received two scholarships to study the following subjects:
- Introductory Real Analysis & Differential Geometry within our Department of Mathematics (2013-2014).
  - Computer Vision & Image Processing as a undergraduate in Computer Science (2014-2016).

Other Projects

- I contribute sporadically and maintain some packages on [NixOS](#).
- Minor contributions in [Sakura](#), an extended relational engine, and [Karuta](#), a compiler for a relational programming language targetting the BEAM.
- I also develop and maintain some Elixir/Erlang/Gleam-based packages on hex, like: [eparch](#), [ergon](#), [erlondono](#), [migraterl](#) and [pacta](#).

Languages & Talks

I speak several languages, such as:

| Language   | Proeficiency |
|------------|--------------|
| English    | Fluent       |
| Portuguese | Fluent       |
| Spanish    | Intermediate |
| Chinese    | Beginner     |

and I've also given talks in certain events, such as:

| Year | Event                     | Language   | Description                                                                                      |
|------|---------------------------|------------|--------------------------------------------------------------------------------------------------|
| 2025 | <a href="#">Gambiconf</a> | Portuguese | I did a talk about <a href="#">Erlang</a> , <a href="#">PostgreSQL</a> and <a href="#">NixOS</a> |