Ricardo Rodrigues da Silveira Filho

Biologist (PhD)
Data Scientist
Developer

CONTACT

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SKILLS

Languages
TypeScript, JavaScript, Python, R, SQL (PL/pgSQL), HTML, CSS, DAX, Power Query (M), Shell

Back end and data
Node.js (Fastify, Express), FastAPI, Prisma, Drizzle, Zod, PostgreSQL (PostGIS, pgvector, RLS), Supabase, Redis, BullMQ, PowerSync (offline-first)

Front end and mobile
React, Next.js, Vite, Tailwind, shadcn/ui, PWA, Capacitor (Android), Shiny (golem)

Infrastructure and testing
Docker, nginx, GitHub Actions, Cloudflare, Vitest, pgTAP, testthat

Data and analytics
ecological statistics, geospatial data (QGIS, PostGIS), Power BI, Quarto and R Markdown, emissions inventory (GHG Protocol)

Applied AI
agent-assisted development (Claude Code), custom skills and hooks, chatbots (Blip), productivity gain measurement, AI usage policy

Product and management
Product Owner, requirements gathering, ADRs, Scrum, PMI, pre-sales and R&D grant proposals

LANGUAGES

Portuguese (native)
English (fluent)
Spanish (reading)

Summary

Data scientist and software developer with a PhD in Zoology and two postdocs. For the last two years I led the Innovation area of an environmental consultancy as Product Owner and Tech Lead: internal systems used across the company, an ESG management SaaS platform, a field data collection suite and BI dashboards for clients. Before that, I built and ran a customer service chatbot with thousands of monthly users. I code in TypeScript, Python and R, and I lead teams with clear scope, acceptance criteria and documented decisions (ADRs). I build generative AI into the development workflow and track the results with metrics: in the assessed tasks, time dropped by about 70%.

Experience

Seteg 2024–present

Innovation Analyst II (Jun 2025 – present) · *Environmental Analyst* (Nov 2024 – Jun 2025) · environmental and geological consultancy

- As Product Owner, conceived and led the project and time management system that replaced a paid tool and is used by the **whole company (about 45 people)**, with a closed beta as the go-live gate.
- Led the consolidation of **14 internal systems into 2**, including 8 request systems used by **about 40 people in 5 departments**: requirements gathering, delivery acceptance, migration order and permission matrix.
- Built the data layer of a field data collection suite (PostgreSQL/PostGIS, Supabase with RLS, offline-first sync) and the company's first project management system (Fastify, Prisma, React), with ERP integration and 189 tests.
- Developed the goals module of an ESG management SaaS platform funded by an innovation grant, and drove the final deliveries through to production deployment.
- Coordinated a team of 4 (3 developers and 1 designer), with direct management and an individual development plan for one developer; Innovation's point of contact with the board and the PMO.
- Wrote the area's **operating manual**: how requirements are written, the git workflow, how project boards are kept and the delivery cycle, from request to handover.
- Measured the productivity gain from generative AI in three departments (**about 70% less time**, based on logged hours) and wrote the company's first AI usage policy.
- Delivered **GHG Protocol** emissions inventories, in the ESG platform and in emissions and target dashboards (Power BI, DAX), and a hydropower generation analytics solution for an energy sector client (FastAPI, trend tests).
- Built tools for field work and management: a **field photo metadata extractor** (EXIF, OCR and reverse geocoding, shipped as a single executable), a forest inventory progress dashboard for a client (a static site reading the field spreadsheet on SharePoint through Microsoft Graph) and a weekly team hours dashboard.

Conciso TI 2020–2024

Data Scientist (Feb 2020 – Oct 2024) · technology

- Conceived, built and ran **Nubus**, the company's customer service chatbot on the Blip platform: **3,000 to 6,000 unique users a month** (peak of 10,000) and a rating always above 4.5 out of 5 (usually **4.7 to 4.8**). I was the point of contact with Blip.
- Owned the database of **Na Esquina**, a delivery app for small and mid-sized grocery stores, built during the pandemic, before the major delivery apps served neighbourhood shops.

Elementus Soluções Ambientais 2023–2025

Senior Project Analyst (Oct 2023 – Apr 2025) · environmental consultancy

- Technical lead (registered with the Biology Council) for sea turtle monitoring at the Port of Natal: quarterly boat surveys, georeferenced records and technical reports to meet the licence conditions.

Academic research 2010–2023

UFRN/PPBio · UNEMAT · UFPB

- *Postdoc, UFRN/PPBio* (2022–2023): pipeline for Brazilian vertebrate checklists and genetic data coverage (BOLD, GenBank), which grew into tetrapoDNA.
- *Postdoc, UNEMAT* (2018–2019): woody community dynamics in the Cerrado; co-supervision, thesis committees and R courses.
- *MSc and PhD in Zoology, UFPB* (2010–2017): mimicry and phylogeography of snakes.
- **15 peer-reviewed papers and 1 accepted (2026)**, including two letters in *Science* (2023 and 2024).

Freelance environmental and statistical consultant 2011–2024

- Environmental impact assessments, herpetofauna surveys and monitoring, and ecological analyses in R for consultancies, with didactic Quarto reports.

Barbosa & Barbosa 2008–2009

CAD Drafter (2008 – 2009)

- Technical drawings for architectural projects in AutoCAD.

Projects

- **tetrapoDNA.** Public dashboard showing which Brazilian tetrapods (about 4,800 amphibian, reptile, bird and mammal species) still have no DNA sequence in BOLD or GenBank. R pipeline with synonym checks (CTFB, GBIF) to avoid false gaps, weekly updates via GitHub Actions and a GitHub Pages site.
  rsilveirafh.github.io/tetrapoDNA
- **claude-plugins.** Open-source catalog of my Claude Code plugins. *banca-simulada* reviews research proposals, from undergraduate theses to faculty hiring, the way a committee would: it points to the passage, the severity and a suggestion across eight axes, and lists the likely questions. *memoria-skills* turns a Markdown vault into a memory system with human review.
  github.com/rsilveirafh/claude-plugins
- **R packages for species checklists (amphiBR and ReptiliaBR).** Open-source contributions: the 2026 Brazilian amphibian checklist (1,251 species) and threat status from the 2026 national red list.
- **Online stores for small businesses.** A store template for confectioneries (Next.js, Supabase, PIX instant payments, PWA), with a product configurator and server-side pricing. Two stores in development.
- **Carona Solidária.** Ride-sharing platform for voters with reduced mobility in the 2026 runoff election, in three state capitals.
- **rr-quant.** Personal quant dashboard that runs itself every trading session (Python, Vercel): a pre-market snapshot of 46 assets, regime and correlation reads and a logistic-regression scoreboard for the Ibovespa.
  github.com/rsilveirafh/rr-quant

Education

Postdoc, Conservation, UFRN / PPBio 2022–2023

Postdoc, Plant ecology, Mato Grosso State University (UNEMAT) 2018–2019

PhD in Zoology, Federal University of Paraíba (UFPB) 2017

MSc in Zoology, Federal University of Paraíba (UFPB) 2012

BSc in Biological Sciences (teaching), State University of Feira de Santana (UEFS) 2009