

CONTACT

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EDUCATION

BSc in Data Science

Universidade Estácio de Sá
since 2025 · graduating Jul 2027

Postdoctoral research in Botany

Rio de Janeiro Botanical Garden
2019

PhD in Botany

Rio de Janeiro Botanical Garden
2015 – 2019

MSc in Biological Sciences

Museu Nacional / UFRJ
2012 – 2014

Biological Sciences

Universidade Santa Úrsula
BSc and licentiate
2007 · 2009

TECHNOLOGIES

PROGRAMMING

TypeScript · JavaScript · Python · R · SQL

APPLICATIONS

Next.js · React · NestJS · Node.js · GraphQL · REST

DATA

Apache Airflow · dbt · BullMQ/Redis · Kafka · DuckDB · Trino · Superset

DATABASES

PostgreSQL/PostGIS · MongoDB · Neo4j · Jena Fuseki

INFRASTRUCTURE

Docker · Git · GitLab CI/CD · Linux · GCP · AWS · Azure

GEOSPATIAL

MapBiomias · Google Earth Engine · LULC series · IUCN criteria

PROCESS

Lean Inception · Product Backlog Building · Scrum · Kanban · requirements engineering

LANGUAGES

Portuguese native · English for technical reading and writing

AVAILABILITY

Immediate · remote, hybrid or Rio de Janeiro

Lucas Sá Barreto

Jordão

Data engineering · Full stack · Geospatial – PhD in Botany

A botanist with a PhD who became an engineer. I spent six years building the infrastructure behind Brazil's plant extinction-risk assessments: Airflow and dbt pipelines, Next.js/NestJS applications over PostgreSQL/PostGIS, and geospatial analysis with MapBiomias. I'm looking for a team where domain, data and product are the same conversation.

EXPERIENCE

CNCFlora / Rio de Janeiro Botanical Garden

2020 – 2026

Rio de Janeiro · Brazil

IT Analyst

2024 – 2026

- Worked from architecture to interface on **Avalia-CNCFlora**, the internal assessment environment: PostgreSQL/PostGIS modelling, a NestJS back end exposing REST and GraphQL, a Next.js front end and GitLab CI/CD.
- Designed and implemented the **Bull-ProFlora** ETL, connecting ProFlora to asynchronous queues and making heavy processing repeatable, observable and auditable.
- Led the **legacy collection migration** with Apache Airflow and dbt; the recovered data now feeds CNCFlora's public portal.
- Gathered requirements with Sphinx-Needs, keeping traceability between need and implementation, and built the team's service catalogue in Backstage.

Red List Analyst

2020 – 2024

- Built geospatial routines that made IUCN criterion B objective and reproducible: regression over MapBiomias series to estimate continuing decline in AOO, EOO and habitat, and a variable-buffer method to semi-automate the counting of *locations*.
- 588 assessments** published on the IUCN Red List.

New York Botanical Garden

2016 – 2017

New York · United States – Herbarium Digitization Intern

- Specimen digitisation and taxonomic data curation, turning a physical collection into accessible data.

Teaching

2007 – 2026

ENBT/JBRJ · UFMS · SEEDUC/RJ · Bioforense course

- Nine classes, courses and modules taught, from secondary school to postgraduate level – phyloinformatics, environmental law and extinction-risk assessment –, with eight open-access course books published in Quarto.

HIGHLIGHTS

- Honourable mention** at the 4th MapBiomias Award (2022), Public Policy Applications category.
- TypeTaxonScript**: a typed-data framework for systematics, published in *Biology Methods and Protocols*.
- Six published **npm packages** and 53 public open-source repositories.
- Eight examining committees and *ad hoc* peer review for seven scientific journals.

14

PUBLISHED PAPERS

08

AS FIRST AUTHOR

06

NEW SPECIES DESCRIBED RED LIST ASSESSMENTS

588