YURI SILVA DE SOUZA

Nationality: Brazilian
Permanent Address: Rio Claro, São Paulo, Brazil
Phone Number: +55 (19) 99825-7249
+1 (786) 834-7161
Email: desouza.s.yuri@gmail.com
Website: https://souzayuri.github.io/
LinkedIn: https://www.linkedin.com/in/yuri-silva-de-souza/

Languages: Portuguese (*Native Speaker*)
English (*Fluent*)

PERSONAL STATEMENT

I am a data-driven researcher with solid experience in data science, specializing in statistical analysis, machine learning modeling, and data visualization across different formats and platforms. My interdisciplinary background in ecology and data science enables me to navigate between natural sciences, spatial analysis, and machine learning, applying these skills to solve complex problems in various areas. My focus is to search for patterns and clearly communicate them, making results accessible and transferable to different audiences through effective storytelling graphs such as dashboards and infographics. I am passionate about continuous learning and keeping up to date with new technologies and methodologies. Most recently, I started learning and translating my knowledge in geographical information systems to the *Google Earth Engine* platform as a way to automate satellite image processing. My academic experience has granted me skills that allow me to learn quickly and to seek knowledge outside my comfort zone. I like to collaborate and brainstorm with people, and over the last years, I was able to lead projects and build strong professional connections, enhancing my work in multidisciplinary fields. Besides being a scientist for my profession and personal life, I have been a technology and computer geek since my childhood. My next goal is to dive more into artificial intelligence and machine learning techniques to integrate different approaches and techniques aiming to automate data processing. I seek to work on projects that challenge my skills and involve integrating data science with different fields of knowledge.

PROFESSIONAL EXPERIENCE

Assistant Professor **2023-2024**

University of Miami, Miami/FL, USA

I lectured for a year in an undergraduate-level course about collecting and analyzing ecological data. During this period, I mentored students in developing science projects from scratch by formulating hypotheses, designing experiments, gathering data, and analyzing and interpreting them. I taught the fundamentals of experimental design and statistics and how to perform analysis using Microsoft Excel and R software.

Data Analyst Technician **2021-2022**

São Paulo State University, Rio Claro/SP, BR

I received a prestigious fellowship to work as a data analyst technician at the ReSeed project. This team conducts species interactions and restoration research in the threatened Brazilian Atlantic Forest biome. I helped them organize their dataset by building two interactive applications. I created a CRUD (create, read, update, delete) Plant Traits Database interface for data entry, which integrates the R Shiny dashboard, MySQL, and Amazon AWS. For data visualization and exploratory analysis, I built the interactive dashboard ReSeed using Shiny R.

Independent Environmental Consultant **2017-2022**

Developed land-use mappings, spatial analyses, and map production and assisted with various statistical analyses.

- Vertebrates survey and bioinformatics data collection and analysis **2021-2022**
  University of Miami, Miami/FL, USA

- Mammal species distribution database production **2018-2019**
  São Paulo State University, LABIC, Rio Claro/SP, BR
- Land-use mapping **2017-2018**
  São Paulo State University, LABIC, Rio Claro/SP, BR
- Thematic map production for a bird guide **2017-2018**
  São Paulo State University, Botucatu/SP, BR
- Species monitoring using drones, spatial and temporal analyses **2017**
  Itirapina Ecological Station, Itirapina/SP, BR

ACADEMIC BACKGROUND

Master's in Biology (M.Sc.) **2022-2025**

University of Miami, Miami/FL, United States

During my master's program, I was awarded the most prestigious fellowship at the university to help me improve my English skills and provide a valuable cultural exchange experience. I developed a project focused on the Brazilian Cerrado, where I studied the effects of landscape heterogeneity on community structures. Additionally, I learned how to write strong research proposals to apply for research grant funding.

MBA in Data Science & Analytics **2021-2023**

University of São Paulo, Piracicaba/SP, Brazil

For this degree, I developed a dashboard that integrates R, Shiny, MySQL, and Amazon AWS tools to collect, host, visualize, and analyze data.

Master's in Ecology and Biodiversity (M.Sc.) **2018-2021**

São Paulo State University, Rio Claro/SP, Brazil

In my master's, I leveled up my analytical skills to answer questions regarding species loss. Specifically, I explored how the extinction of large mammals impacts plant community and plant dynamics in the Atlantic Forest.

Bachelor's in Ecology **2013-2016**

São Paulo State University, Rio Claro/SP, Brazil

During my undergraduate studies, I developed a project that utilized the *Intergovernmental Panel on Climate Change* scenarios to model the impact of climate change on the water cycle of the Amazon basin. Additionally, I participated in a project focused on implementing payment for ecosystem services provided by subsistence farming.

TECH STACK AND SKILLS

- **Data Acquisition and Manipulation:** Experienced with tools and packages for database access and download, text-mining, filtering, cleaning, manipulating, and summarizing large datasets and variables (nominal, ordinal, discrete, and continuous data) using conditions and functions.

- **Statistical analyses:** Proficient in using supervised models (linear, logistic, zero-inflated, generalized and mixed models, classification and regression trees, Random Forest) and unsupervised machine learning (hierarchical clusters, dendrograms, Principal Component Analysis, K-means clustering), descriptive statistics (mean, median, mode), correlations (Pearson, Spearman), hypothesis testing (ANOVA, T-test, Chi-square), cluster and multivariate analyses (Redundancy Analysis, Non-metric Multidimensional Scaling, Structural Equation Models, Multivariate ANOVA), and ecological metrics (species richness, evenness, Shannon, Simpson, Alpha, Beta, and Gamma diversity), as well as network metrics (centrality, connectivity, paths, and communities).

- **Geographic Information Systems (GIS):** Experienced with vector data, rasters, and arrays. Familiar with tools to calculate coverage, land use cover, landscape metrics, point density, digital elevation models, contour lines, risk areas, 3D models, geocoding, and remote sensing through the acquisition and processing of aerial images (satellites and drones), using both supervised and unsupervised models.

- **Drones:** Experience in handling and piloting drones (DJI Mavic 3M and DJI Phantom 4 Pro); pre-processing photogrammetric images for ortho mosaics. Post-processing using Random Forest in R for supervised image classification.

- **Software and Programming Languages:** Office 365 (*advanced*), R Studio (*advanced*), R Markdown (*advanced*), R Shiny (*advanced*), Python (*basic*), Power BI (*basic*), Git (*intermediate*), GitHub (*intermediate*), HTML (*basic*), ArcGIS (*advanced*; versions: Desktop, Pro, Storytelling, Online, Business), QGIS (*basic*), MySQL (*basic*), Agisoft Metashape (*intermediate*), Adobe Illustrator (*advanced*), Google Earth Engine (*intermediate*).

- **Communication and Visualization:** Skilled in using graphs, dashboards, and infographics to explore and communicate results to different audiences in both English and Portuguese.

- **Writing:** Extensive experience in academic writing and reporting, focusing on connecting statistical model results with visualization methods to identify patterns and report in plain English and Portuguese.

COMPLEMENTARY EDUCATION

Google Earth Engine for Remote Sensing & GIS **2024-2025**
Ambgeo (Online)
Machine Learning in R: Land Use Land Cover Image Analysis **2024**
Udemy (Online)
Análises Multivariadas usando R **2020**
e-MultivarR (Online)
Hierarchical Modelling of Species Communities with the R-package Hmsc **2020**
University of Helsinki (Online)
Introdução a Modelos Hierárquicos **2019**
Rio Grande do Sul Federal University (in-person)
Introdução ao R: manejos de dados, visualização, e análises **2019**
São Paulo State University (in-person)
Análises de risco ambiental utilizando ArcGIS software **2018**
Geoprocessamento sem fronteiras (Online)
Inventário de Gases do Efeito Estufa: Sustentabilidade Corporativa e Pública **2016**
Companhia de Tecnologia de Saneamento Ambiental, CETESB (in-person)

ACADEMIC AND SCIENTIFIC EXPERIENCES

- **RESEARCH FUNDING AND INTERNATIONAL AWARDS**
  - 2024 The University of Miami, Biology, Kushlan Fund (USD 500,00).
  - 2024 Neotropical Grassland Conservancy (USD 1.500,00).
  - 2024 Institute for Advanced Study of the Americas (USD 2.000,00).
  - 2024 The University of Miami, Summer Grant (USD 5.000,00).
  - 2024 Lewis and Clark Research Fund (USD 5.000,00).
  - 2023 The University of Miami, Biology, Kushlan Fund (USD 500,00).
  - 2023 The University of Miami, Biology Graduate Symposium, Best poster presentation (USD 100,00).

- **TEACHING**

Ecology Lab course **2023-2024**

Position: Assistant Professor
Undergraduate course focused on the design, analysis, and visualization of ecological data.
University of Miami, Miami, Florida, US (in-person)

Applied Statistics for Field Ecology using R **2018**

Position: Assistant Professor
Undergraduate course focused on the design, analysis, and visualization of ecological data.
São Paulo State University, Rio Claro, São Paulo, BR (in-person)

Modeling using FORTRAN and Data Visualization in ArcGIS **2014**

Position: Assistant Professor
Graduate course focused on analysis and visualization of vegetation distribution maps.
São Paulo State University, Rio Claro, São Paulo, BR (presencial)

- **NETWORK AND SCIENTIFIC WRITING**

07. Gonçalves, Fernando; Farooq, Harith; Harfoot; Mike; Pires, Mathias. M.; Villar, Nacho; Sales, Lilian; Carvalho, Carolina; Bello, Carolina; Emer, Carine; Bovendorp, Ricardo, S.; Mendes, Calebe; Beca, Gabrielle; Lautenschlager, Lais; **Souza, Yuri**;...Galetti, Mauro. **2024**. A global map of species at risk of extinction due to natural hazards. *Proceedings of the National Academy of Sciences*, *121*(26): p.e2321068121.

06. Lautenschlager, Lais; **Souza, Yuri**; Villar, Nacho; Galetti, Mauro; Feeley, Kenneth, J. **2024**. Communal tapir latrines are foraging sites for tropical forest vertebrates. *Global Ecology and Conservation*, 56: e02950.

05. Lautenschlager, Lais; **Souza, Yuri**; Galetti, Mauro. **2022**. Frugivory and seed dispersal by the Red-footed Tortoise *Chelonoidis carbonaria*. *Acta Oecologica*, 116: 103837.

04. **Souza, Yuri**; Villar, Nacho; Ziparro, Valesca; Nazareth, Sérgio; Galetti, Mauro. **2021**. A global map of species at risk of extinction due to natural hazards. *Journal of Ecology*, 110(04): 845-859.

03. **Souza, Yuri,** *et al.* **2019**. ATLANTIC MAMMALS: a data set of assemblages of medium and large-sized mammals of the Atlantic Forest of South America. *Ecology*, 110(10): e02785.

02. Vancine, Maurício H.; Duarte, Kauã da Silva; **De Souza, Yuri S.**; Giovanelli, João G, R.;Martins-sobrinho, Paulo M.; López, Ariel; Bovo, Rafael P.; Maffei, Fábio; Lion, Marília B.;Ribeiro Júnior, José W.; Brassaloti, R.; Da Costa, Carolina O, R.; Sawakuchi, Henrique O.;Forti, Lucas R.; Cacciali, Pier; Bertoluci, Jaime; Haddad, Célio F, B.; Ribeiro, Milton C. **2018**. ATLANTIC AMPHIBIANS: a data set of amphibian communities from the Atlantic Forests of South America. *Ecology*, 99(07): 1692-1692.

01. Conciani, Dhemerson; **De Souza, Yuri S.**; Ruffino, Paulo H, P.; Zanchetta, Denise. **2018**. Análise Temporal da Invasão Biológica de *Pinus sp.* em Área Úmida do Domínio Cerrado. *Revista Brasileira de Geografia Física*, 11(02): 521-531.
