

# Vinicius Ricardo Riffel

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## SUMMARY

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I am a statistician with a bachelor's degree from the Federal University of Paraná (UFPR) and a master's degree from the Federal University of Minas Gerais under the guidance of Professor Renato Martins Assunção. Currently, I am a PhD candidate at the University of Wollongong under the supervision of Professor Andrew Zammit-Mangion. My research focuses on Bayesian statistics and applied geographic information systems. I was also a researcher in the Geosciences Oriented Deep Learning project, where we utilized and developed cutting-edge techniques from the neural networks literature with seismic data in a high-performance computing environment. I have previously worked as an intern in the Data Science & Big Data specialization program at UFPR and the Customer Care department at Electrolux. During my undergraduate studies, I served as a teaching assistant for courses such as Calculus and Linear Algebra applied to Statistics and Statistical Inference. I also participated in research projects that led to international publications and presentations at national conferences. During my undergraduate studies, I initiated a statistical consulting project, providing services to researchers from various fields and businesses. Through these activities, I gained proficiency in various tools, including programming languages like Python and R, the Microsoft Office suite, and LibreOffice. Throughout these experiences, I developed essential skills such as teamwork, planning, adaptability, and discipline.

## EXPERIENCE

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### PhD candidate in Mathematics

July 2024 - Present

- I am a PhD candidate in Mathematics under the supervision of Professor Andrew Zammit-Mangion at the University of Wollongong. My research is supported by [TIDE](#). Our research focus is efficient Bayesian inference.

### Researcher in the GODEep project

Oct. 2023 - Sep. 2024

- Researcher at **Geosciences Oriented Deep Learning** (GODEep) project, supported by Petrobras. We have developed methods and utilized state-of-the-art techniques from the literature on neural networks to solve problems in geosciences, focusing on petroleum exploration. Petrobras provided us with access to their supercomputer, Tatu, for model training.

### MSc in Statistics

March 2023 - June 2024

- I was part of the postgraduate program in Statistics at the Federal University of Minas Gerais under the guidance of Professor Renato Martins Assunção. I took courses in Probability, Statistical Inference, Data Visualization, Deep Learning, and Geographic Databases. I conducted research in natural language processing focused on geographic texts and a novel approach to the modifiable areal unit problem. My primary objective was to develop innovative approaches to the applications of geographic information systems.

### Teaching assistant, UFMG

March 2024 - June 2024

- I am a teaching assistant for the course "Fundamental Statistics for Data Science" offered by the Graduate Program in Computer Science. I assist the students and am currently working on developing a web version of the course textbook using Quarto.

## Independent consultant

Oct. 2020 - Jan. 2024

- I worked as an independent statistician consultant. During this time, I provided statistical consulting services to researchers in various fields, including education, psychology, and healthcare. I also collaborated with companies on projects related to electoral research and the development of tools for production management and optimization. Among other contributions, I was involved in the creation of an automated truck unloading system, which resulted in significant productivity gains for the contracting company.

## Researcher in the Mind The Gap project

Feb. 2022 - Dec. 2022

- I was part of the project **Bill & Melinda Gates Foundation 31/2020 – Grand Challenges Explorations – Brazil: Data Science to Improve Maternal-Infant Health, Women’s Health, and Child Health in Brazil** as a PIBIT scholarship holder under the guidance of Professor Anderson Ara. Alongside other researchers, we developed a new methodology for cluster analysis aimed at identifying poverty patterns in Brazil. The results obtained were presented to Brazilian authorities.

## Internship, Electrolux

June 2021 - Feb. 2022

- I was selected for the Electrolux internship program in the Consumer Care & Ownership Solution department, competing with over 200 candidates per position. I was responsible for developing a data pipeline in Python. The pipeline involved aggregating data from various systems and APIs to keep management tools updated in real time. After structuring a database, I collaborated with the managers to develop a new methodology for evaluating employee performance.

## Undergraduate research, UFPR

Dec. 2019 - Dec. 2020

- I was part of the project "New Developments in Ordered Set Sampling Designs" under the guidance of Professors Cesar Augusto Taconeli and Paulo Justiniano Ribeiro Jr. During this opportunity, we conducted research on ordered set sampling designs, which resulted in publications in international journals and presentations at national conferences.

## Internship, FUNPAR

May 2019 - May 2021

- I worked as an intern in the Data Science & Big Data specialization program at UFPR, where my responsibilities included automating the production of course reports and presentations. Additionally, I organized, planned, and monitored the administrative activities of the program.

## Teaching assistant, UFPR

Feb. 2019 - June 2019 and June 2021 - Dec. 2021

- I was a teaching assistant for the courses "Fundamental Basics for Statistics" and "Inferential Statistics." In both courses, I assisted the professors by providing additional online activities for the students. I also helped students with their questions and exercises from the classes.

## EDUCATION

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Feb. 2018 - Sep. 2022      Bachelor's degree in Statistics from the **Federal University of Paraná**(GPA: 9.1/10)

March 2023 - June 2024      Master's degree in Statistics, **Federal University of Minas Gerais**

## PUBLISHED ARTICLES

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Riffel, Vinicius Ricardo et al. (2022). "On distribution selection under ranked set sampling schemes". In: *Communications in Statistics - Simulation and Computation* 0.0, pp. 1–21. eprint: <https://doi.org/10.1080/03610918.2022.2025838>.

## TALKS

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Riffel, Vinicius Ricardo et al. (2022). “Comparação de diferentes métodos para simulação de amostras com erros de ranqueamento em amostragem por conjuntos ordenados”. 24<sup>o</sup> Simpósio Nacional de Probabilidade e Estatística. URL: <https://sinape2022.eventize.com.br/>.

Riffel, Vinicius Ricardo et al. (2022). “Equações de estimação regularizadas”. 66<sup>a</sup> Reunião Anual Região Brasileira da Sociedade Internacional de Biometria. URL: <https://rbras2022.com.br/>.

Riffel, Vinicius Ricardo et al. (2022). “Método de clusterização aplicado a classificação da pobreza familiar: um estudo de performance computacional para dados mistos”. 24<sup>o</sup> Simpósio Nacional de Probabilidade e Estatística. URL: <https://sinape2022.eventize.com.br/>.

Riffel, Vinicius Ricardo et al. (2022). “Seleção de modelos discretos baseado em delineamentos por conjuntos ordenados”. 24<sup>o</sup> Simpósio Nacional de Probabilidade e Estatística. URL: <https://sinape2022.eventize.com.br/>.

## SKILLS

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Tools R (Shiny, tidyverse, data.table, ggplot2, etc), Python (PyTorch, scikit-learn, pandas etc), High-performance computing, Git, LibreOffice, Microsoft Office, Google Workspace, Linux.