ANTÔNIO CARLOS HERLING RIBEIRO JUNIOR

Pittsburgh, Pennsylvania, United States   ahribeir@stat.cmu.edu   +1 412-738-6545
Citizenship: Brazilian

EDUCATION

Carnegie Mellon University, USA   Aug 2023 - May 2028 (expected)
PhD in Statistics & Data Science
Research topics: rerandomization, causal inference, deep learning.
Advisor: Prof. Zach Branson

Carnegie Mellon University, USA   Aug 2023 - May 2025
MS in Statistics & Data Science

University of São Paulo, Brazil   Feb 2019 - Dec 2022
BS in Statistics & Data Science (with *Highest Honors*)   GPA: 9.4/10
Senior thesis: *A comparison between different jump estimators in regression discontinuity designs.*
Advisor: Prof. Carlos Brunet Martins-Filho

WORK EXPERIENCE

Amazon, USA   May 2024 - Aug 2024
Data science intern
Managers: Pierre Bhoorasingh and Xin Tang
Mentor: Philip Wu

- Developed a ML model to forecast Amazon Pharmacy's customer lifetime value (LTV). The model also automatically identified the main drivers of LTV values for different segments of customers.
- Volunteered as teaching assistant for Amazon's Machine Learning University course "Advanced Prompt Engineering for Large Language Models" taught for over 70 Amazon scientists and engineers.

Itaú Unibanco, Brazil   Apr 2021 - Mar 2022
Data science intern
Mentors: Gabriel Assalti, MS and Fernanda Nanci Scacabarozzi, MS

- Helped to create a model to predict cash demand on 25% of Itaú's ATMs, which reduced standard deviation of current predictions by about 30%.
- Helped to create models to predict salary of non-Itaú account holders using Open Finance data. Open Finance is a program of the Brazilian government to improve data sharing between private banks.

PAPERS

Ribeiro Junior, A. C. H., Branson, Z. *Rerandomization: A Review and A Pracitioner's Guide*. In preparation (2025+)

Ribeiro Junior, A. C. H., Branson, Z. *Autoencoder Rerandomization*. In preparation (2025+)

Carzon, J., Masserano, L., Shen, A., Ingram, J., **Ribeiro Junior, A. C. H.,** Dorigo, T., Doro, M., Speagle, J. Izbicki, R., Lee, A. *Trustworthy scientific inference for inverse problems with generative models*. Under review at Nature Comms (2025)

Kalatzis, A. E. G., Martins-Filho C., **Ribeiro Junior, A. C. H.** *Financial Constraints and Firm Efficiency: Further Empirical Evidence*. Finance Research Letters (2025)

CONFERENCES

- 2023 Joint Mathematics Meetings, Presenter (talk and poster) **Measures and Standards of Fairness in AI Embeddings.** *Boston, MA, USA*

RESEARCH GROUPS

Causal Inference Aug 2024 - Present
Carnegie Mellon University, USA

Corporate Finance and Econometrics Dec 2021 - Present
National Council for Scientific and Technological Development, Brazil

TEACHING EXPERIENCE

Carnegie Mellon University

- Statistical Computing - Instructor   Summer 2025
- Statistical Machine Learning - Head TA   Spring 2025
- Financial Data Science II - TA   Fall 2024
- Financial Data Science I - TA   Fall 2024
- Statistical Machine Learning - Head TA   Spring 2024
- Modern Regression - TA   Fall 2023

University of São Paulo

- Stochastic Processes - TA   Spring 2022
- Probability I - TA   Summer 2021
- Data Visualization and Exploration - TA   Spring 2020

SKILLS

Languages: Portuguese (native), English, Spanish
Programming: Python, R, SQL, LaTeX