ANTÔNIO CARLOS HERLING RIBEIRO JUNIOR

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RESEARCH INTERESTS

Responsible AI, regression discontinuity designs, semi-parametric regression models, and Bayesian statistics

EDUCATION

Carnegie Mellon University, USA To start in Aug 2023
PhD 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

RESEARCH EXPERIENCE

University of California, Los Angeles - Research in Industrial Projects for Students July 2022 - Aug 2022
Measures and Standards of Fairness in AI Embeddings. Slides Sponsor: Meta
Advisors: Imanol Arrieta-Ibarra (Meta) and Erin George (UCLA)

- Evaluated and generalized word embeddings fairness metrics.
- Proposed two methods for mitigating bias in embeddings and a new measure of fairness in embeddings.
- Presented the project at Meta's headquarters to its Responsible AI research group and we also were accepted to present the project at the 2023 Joint Mathematics Meetings (poster and talk).

University of Colorado, Boulder March 2022 - Present
A comparison between different jump estimators in regression discontinuity designs. Thesis
Advisor: Carlos Brunet Martins-Filho

- Analyzed the perfomance of established regression discontinuity estimators under different data generating processes.
- Did an extensive Monte Carlo study to shed light on the choice of optimal values for the parameters of the jump estimator proposed by Martins-Filho, et al. (2022).
- It was my senior thesis for the B.S. in Statistics and Data Science from the University of São Paulo.

University of São Paulo & University of Colorado, Boulder April 2020 - Present
Do intangible capital and financial constraints matter to firms' productivity? A semi-parametric fixed-effects analysis. Manuscript
Advisors: Aquiles Elie Guimarães Kalatzis (USP) and Carlos Brunet Martins-Filho (UC, Boulder)

- Explored the joint association of intangible assets, financial constraints and firms' productivity.
- Used Generalized Additive Models to identify nonlinear relationship between intangible assets and firms' productivity.
- Provided a thorough discussion on the effectiveness of KZ, WW, and SA indexes in detecting firms' financial constraints.
- We submitted a manuscript to the 2023 Midwest Finance Association and we are working to improve the project and submit a paper to the Journal of Monetary Economics later in 2023.

CONFERENCES

- 2023 Joint Mathematics Meetings, Presenter (talk and poster) *Boston, MA, USA*

RESEARCH GROUPS

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

WORK EXPERIENCE

Itaú Unibanco (Brazil) April 2021 - March 2022
Data science intern
Mentors: Gabriel Assalti, M.Sc. and Fernanda Nanci Scacabarozzi, M.Sc.

- 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.

Technical University of Liberec (Czech Republic) Dec 2021 - March 2022
Remote intern at the project *Life cycle assessment of solar energy in United States*
Mentor: Ing. Pavla Švermová, Ph.D.

- Did a literature review on the theory of the Life Cycle Assessment (LCA) method.
- Helped analyze the usage of solar energy in the United States using the LCA method.

TEACHING ASSISTANCE

University of São Paulo, Brazil

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

SKILLS

Languages:	Portuguese (native), English, Spanish
Programming:	Python (scikit-learn, tensorflow, seaborn, pandas, Jupyter), R (readr, dplyr, tidyr, ggplot2) Julia, SQL, LaTeX