



# Mateus Maia Marques

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## EDUCATION

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### •Ph.D Candidate in Statistics

April 2020 - Expect March 2024

National University of Ireland Maynooth

Ireland

- Fully funded by the Science Foundation of Ireland (SFI).
- Advisor: Professor Andrew Parnell
- Research topic: Bayesian Statistical Machine Learning.

### •M.Sc in Statistics

March 2018 - February 2020

Federal University of Bahia

Brazil

- Fully funded by the National Council for Scientific and Technological Development (CNPQ) of Brazil.
- Advisor: Dr. Anderson Ara
- Dissertation: "Random Machines - The Random Kernel Space for Constructing a Support Vector Ensemble".

### •M.Sc in Statistics

March 2014 - February 2018

Federal University of Bahia

Brazil

- Partially funded by the National Council for Scientific and Technological Development (CNPQ) of Brazil.

## EXPERIENCE

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### •Maynooth University

October 2020 - currently

Teaching Assistant

Ireland

- Conducted tutorial sessions for statistical modules with large groups of undergraduate and graduate students with interdisciplinary backgrounds. Included grading responsibilities in the role.
- Instructed modules encompassing: Introduction to Statistics, Introduction to R and Data Science, Generalized Linear Models, Statistical Machine Learning, Linear Models, and Probability.

## PUBLICATIONS

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- **Maia, Mateus**, Keefe Murphy, and Andrew C. Parnell. "GP-BART: a novel Bayesian additive regression trees approach using Gaussian processes." *Computational Statistics & Data Analysis* (2023): 107858.
- **Maia, Mateus**, *et al.* "Wavelet Support Vector Censored Regression." *Analytics 2.2* (2023): 410-425.
- Ara, A., **Maia, M.**, Louzada, F., & Macêdo, S. "Regression random machines: An ensemble support vector regression model with free kernel choice." *Expert Systems with Applications* 202 (2022): 117107.
- **Maia, Mateus**, Arthur R. Azevedo, and Anderson Ara. "Predictive comparison between random machines and random forests." *Journal of Data Science* 19.4 (2021): 593-614.
- Ara, A., **Maia, M.**, Louzada, F., & Macêdo, S. "Random machines: A bagged-weighted support vector model with free kernel choice." *Journal of Data Science* 19.3 (2021): 409-428.
- **Maia, Mateus**, *et al.* "Convolutional support vector models: Prediction of coronavirus disease using chest x-rays." *Information* 11.12 (2020): 548.
- Paz, H., **Maia, M.**, Moraes, F., Lustosa, R., Costa, L., Macêdo, S., & Ara, A. "Local processing of massive databases with R: a national analysis of a Brazilian social programme." *Stats* 3.4 (2020): 444-464.

## SELECTED CONTRIBUTED PRESENTATIONS

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- **Oral presentation:** Mateus Maia\* Keefe Murphy, and Andrew C. Parnell. "spBART: combining Bayesian additive regression trees with penalised splines." 16th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2023), Berlin, Germany.
- **Oral presentation:** Mateus Maia\* Keefe Murphy, and Andrew C. Parnell. "sBART: novel extension to Bayesian additive regression trees using splines." Conference of Applied Statistics in Ireland (CASI) 2023, Killaerney, Ireland.
- **Poster presentation:** Mateus Maia\* Keefe Murphy, and Andrew C. Parnell. 2023. "GP-BART: an extension to Bayesian additive regression trees approach using Gaussian processes". BayesComp, 2023. Kittila, Finland.
- **Oral presentation:** Mateus Maia\* Keefe Murphy, and Andrew C. Parnell. "A new Extension For Bayesian Additive Regression Trees Model Adopting Gaussian Processes." Conference of Applied Statistics in Ireland (CASI) 2022, Cork, Ireland.

## TECHNICAL SKILLS

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- **Programming Languages:** R, C/C++, Rcpp, Python, Julia, LaTeX
- **Research software:** Development and publishing R packages as : `randomMachines` available at CRAN, and `gpbart` available at GitHub.
- **Languages:** English, Spanish, and Portuguese (native speaker)

## AWARDS, FELLOWSHIPS & GRANTS

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- **Ph.D. Grant**, Science Foundation Ireland Career Development Award - Grant Number: 17/CDA/4695 2020-2024
- **Ph.D. Grant**, Science Foundation Ireland Research Centre Award - Grant Number: 12/RC/2289P2 2020-2024
- **2nd place at the Best Master Thesis Competition**, at National Symposium on Probability and Statistics of Brazil organised by the Brazilian Association of Statistics. 2022
- **Master's Grant**, National Council for Scientific and Technological Development of Brazil. 2018-2020
- **Scientific Initiation Fellowship**, member of the Theoretical and Applied Stratigraphy Group of UFBA (GETA-UFBA) funded by National Council for Scientific and Technological Development of Brazil. 2016-2018
- **Scientific Initiation Fellowship**, member of the Hydrogeological and Environmental Studies Center (NEHMA) funded by National Council for Scientific and Technological Development of Brazil. 2016-2017
- **First place in the Admissional National Exam for the Geophysics Bachelor program**, at Federal University of Bahia 2014

## OUTREACH & SCIENTIFIC EVENTS

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- **Short Course**: Support Vector Models (SVM) - An Introduction to Statistical Machine Learning general course to statisticians about SVM techniques. Joint work with Anderson Ara\*, Raydonal Spinoza, Mateus Maia at 67<sup>a</sup> RBras e 20<sup>o</sup> SEAGRO, Londrina, Paraná, Brazil. **Role**: Collaborated the written material used on the course, **2022**.
- **Scientific Event**: Research Week Maynooth, seminars to share global impact of interdisciplinary research in Maynooth. **Role**: Member of the organising and scientific committee. **October 2021**.
- **Scientific Event**: Hamilton Student Seminear Series, series of seminars to showcase research by students from the Hamilton Institute **Role**: Host and member of the organising and scientific committee. **2020-2021**.
- **Short Course**: Big Data in R - First Steps, a 4-hour length short-course for an general audience teaching how to use R and its tool to big data at Federal University of Bahia. **Role**: Lecturer. **November, 2019**
- **Short Course**: Statistical Learning and Ensemble methods, a 4-hour length short-course for research group of environmental engineers about ensemble of statistical machine learning models. **Role**: Lecturer. **May, 2019**.

## REFEREES

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### •Professor Andrew Parnell

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### •Professor Marcos Enne Barreto

*LSE Data Science Institute*

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### •Professor Anderson Ara

*Federal University of Paraná*

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