



# Mateus Maia Marques

Ph.D candidate in Statistics

National University of Maynooth  
Ireland

| mateusmaia.netlify.app

+353 083 029 0151

mateus.maiamarques.2021@mumail.ie

mateusmaia11@gmail.com

github.com/MateusMaiaDS

## EDUCATION

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### • Ph.D Candidate in Statistics

*National University of Ireland Maynooth*

*April 2020 - Expected March 2024*

Ireland

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

### • M.Sc in Statistics

*Federal University of Bahia*

*March 2018 - February 2020*

Grade: 9.0/10.0 - 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".

### • Bachelor in Geophysics

*Federal University of Bahia*

*March 2014 - February 2018*

Grade: 8.3/10.0 - Brazil

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

## EXPERIENCE

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### • Maynooth University

*Teaching Assistant*

*October 2020 - currently*

Ireland

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

### • Maynooth University

*Professional Certification in Teaching and Learning*

*October 2020*

Ireland

- Enrolled into a 3-month professional teaching training, where I adeptly applied core concepts of didactics, learning theories, and evaluation. This ensured my lectures were engaging and effective, tailored to diverse learning styles.

## 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. "sBART: novel extension to Bayesian additive regression trees using splines." Conference of Applied Statistics in Ireland (CASI) 2023 , Killarney, 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
- **Probabilistic Programming Language:** JAGS, Stan.
- **Research software:** Development and publishing R packages as : `rmachines`, `gpbart` .
- **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 Admisional 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**.
- **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

*Hamilton Institute - Maynooth University*

Ireland

- andrew.parnell@mu.ie
- +353 1 716 2422

### • Professor Marcos Enne Barreto

*LSE Data Science Institute*

United Kingdom

- m.e.barreto@lse.ac.uk
- +44 (0)20 7405 7686

### • Professor Anderson Ara

*Federal University of Paraná*

Brazil

- ara@ufpr.br
- +55 41 8823-6116