

Roberto Macrì Demartino

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Research Interests

- Bayesian methods
- Replication studies
- Models for sports data
- Priors elicitation
- Survival analysis
- Mixture models

Current Position

Postdoctoral Researcher, University of Trieste Trieste, IT
Dec 2024 – Today
Department of Economics, Business, Mathematics and Statistics “Bruno de Finetti“

- **Project Title:** Statistical methods for merging information in a Bayesian context.
- **Scientific Coordinator:** Prof. Nicola Torelli.

Education

Ph.D. University of Padua, Italy, Statistical Science Oct 2021 – Jan 2025

- **Thesis Title:** Bayesian methods for borrowing historical information
- **Supervisor:** Prof. Nicola Torelli.
- **Co-supervisor:** Prof. Leonardo Egidi.

M.Sc. University of Calabria, Italy, Statistics and Computer Science Oct 2018 – Apr 2021

- **Thesis Title:** Frailty models: Survival analysis in the oldest old
- **Supervisor:** Prof. Filippo Domma.
- **Grade:** 110/110 cum laude + honor mention

B.Sc. University of Calabria, Italy, Statistics Sept 2015 – Oct 2018

- **Grade:** 110/110 cum laude

Visiting Periods

Athens University of Economics and Business, Department of Statistics Athens, GR
May 2024 – Jun 2024

- **Supervisor:** Prof. Ioannis Ntzoufras.

Athens University of Economics and Business, Department of Statistics Athens, GR
Nov 2023 – Dec 2023

- **Supervisor:** Prof. Ioannis Ntzoufras.

University of Zurich, Department of Biostatistics Zurich, CH
Sept 2023 – Oct 2023

- **Supervisor:** Prof. Leonhard Held.

Teaching Experience

Teaching Assistant in Sport Analytics, B.Sc. in Statistics for Business and Society Naples, IT
Feb 2025 – Jun 2025

- **Teaching task:** Theoretical and Practical Lessons, 15 hours

Teaching Assistant in Statistics, B.Sc. in Economics Trieste, IT
Feb 2024 – Jul 2024

- **Teaching task:** Practical Lessons, 20 hours

Teaching Tutor in Statistics, B.Sc. in Statistics Rende, IT
Sept 2019 – Feb 2020

- **Teaching task:** Laboratory, 20 hours

Publications

Journal Articles

- Eliciting prior information from clinical trials via calibrated Bayes factor** 2025
Roberto Macrì Demartino, Leonardo Egidi, Nicola Torelli, and Ioannis Ntzoufras
Computational Statistics and Data Analysis
[10.1016/j.csda.2025.108180](https://doi.org/10.1016/j.csda.2025.108180)
- Alternative ranking measures to predict international football results** 2024
Roberto Macrì Demartino, Leonardo Egidi, and Nicola Torelli
Computational Statistics
[10.1007/s00180-024-01585-z](https://doi.org/10.1007/s00180-024-01585-z)
- Demographic insights for the endangered Apennine yellow-bellied toad in the Pollino National Park (Southern Italy). A five-year Capture-Mark-Recapture study** 2024
Ilaria Bernabò, Viviana Cittadino, Vittoria Marchianò, Lea Anna Cozzucoli, Giuseppe De Bonis, Roberto Macrì Demartino, and Antonio Romano
Journal for Nature Conservation
[10.1016/j.jnc.2024.126656](https://doi.org/10.1016/j.jnc.2024.126656)
- Surgical treatment of hypertrophic obstructive cardiomyopathy in relatively elderly patients: Short- and long-term outcomes** 2022
Elisabetta Lapenna, Teodora Nisi, Davide Carino, Benedetto Del Forno, Stefania Ruggeri, Davide Schiavi, Roberta Meneghin, Roberto Macrì Demartino, Alessandro Castiglioni, Francesco Maisano, Ottavio Alfieri, and Michele De Bonis
European Journal of Cardio-Thoracic Surgery
[10.1093/ejcts/ezac229](https://doi.org/10.1093/ejcts/ezac229)

Working Papers

- footBayes: an R package for modeling football matches** 2025+
Leonardo Egidi, Roberto Macrì Demartino, and Vasilis Palaskas
- Mixture priors for replication studies** 2024+
Roberto Macrì Demartino, Leonardo Egidi, Leonhard Held, and Samuel Pawel
Submitted
[ArXiv version](#)

Conference Proceedings

- Merging data and historical information via optimal power prior selection in Bayesian models** 2024
Roberto Macrì Demartino, Leonardo Egidi, Nicola Torelli, and Ioannis Ntzoufras
Proceedings of the 2024 Statistics and Data Science Conference, Palermo, IT
- Power priors elicitation through Bayes factors** 2023
Roberto Macrì Demartino, Leonardo Egidi, and Nicola Torelli
Book of short papers of the 2023 SIS International Statistical Conference - Statistical Learning, Sustainability and Impact Evaluation, Ancona, IT
- The use of Bradley-Terry comparisons in statistical and machine learning models to predict football results** 2023
Roberto Macrì Demartino, Nicola Torelli, and Leonardo Egidi
Proceedings of the 2023 Statistics and Data Science Conference, Pavia, IT

Abstracts

Correlation between thoracic aortic diameters and cardiovascular risk factors by computed tomography angiography

2024

Chiara Zanon, Gambato Sebastiano, Luca Barbato, Costanza Bini, Marianna Mochen, Roberto Macrì Demartino, Giulio Cabrelle, Emilio Quaia, and Alessia Pepe,

Atherosclerosis, Volume 395, 118123

Softwares and Packages

footBayes

- **Role:** Co-author.
- **Description:** This is the first R package allowing for the estimation, visualization, and prediction of the most well-known football models. It supports both maximum likelihood estimation (MLE) and Bayesian inference using CmdStan.

[CRAN version](#) 
[GitHub repository](#) 

repmix

- **Role:** Co-author.
- **Description:** An R package for Bayesian estimation and testing of effect sizes based on data from an original study and its replication using a mixture prior framework.

[GitHub repository](#) 

Presentations

Invited

Fitting Bayesian and frequentist football models in R via the footBayes package

12th Scientific Meeting of the Statistics for the Evaluation and Quality of Services Group of the Italian Statistical Society.

Brixen, IT
2025

Predicting and modelling football matches with the R package footBayes

53th Scientific meeting of the Italian Statistical Society.

Genova, IT
2025

A robust Bayesian approach for replication studies using mixture priors

3rd Conference of the Statistics and Data Science Group of the Italian Statistical Society.

Milan, IT
2025

Eliciting prior information from clinical trials via calibrated Bayes factor

BayesMeCOS Workshop.

Florence, IT
2025

Merging data and historical information via optimal power prior selection in Bayesian models

2nd Conference of the Statistics and Data Science Group of the Italian Statistical Society.

Palermo, IT
2024

Contributed

The use of Bradley-Terry comparisons to predict international football results

8th AUEB Sports Analytics Workshop & Conference (SAW),

Athens, GR
2024

Power prior's weight parameter elicitation via Bayes factor

Statistics@Naples Workshop.

Naples, IT
2023

Power priors elicitation through Bayes factors

51th Scientific meeting of the Italian Statistical Society.

Ancona, IT
2023

The use of Bradley-Terry comparisons in statistical and machine learning models to predict football results

1st Conference of the Statistics and Data Science Group of the Italian Statistical Society.

Pavia, IT
2023

Seminars

Bayesian methods for the integration of historical data

AUEB Statistics Seminar Series.

Athens, GR
2023

Posters

Mixture priors for replication studies

Objective Bayes Methodology Conference.

Athens, GR
2025

Bayesian methods for the integration of historical data

International Society for Bayesian Analysis (ISBA) World Meeting.

Venice, IT
2024

Awards and Certificates

Young researcher travel award

ISBA Objective Bayes Methodology Conference.

Athens, GR
2025

Best poster award

International Society for Bayesian Analysis (ISBA) World Meeting.

Venice, IT
2024

Mention for Excellent Curriculum Studiorum and Master's thesis project

University of Calabria.

Rende, IT
2021

English Level Certificate provided by the University Language Center: Level C1 of the CEFR (Council of Europe, 2001/2018)

University of Calabria.

Rende, IT
2021

Programming Skills

- **R:** Highly Specialised
- **Stan:** Advanced
- **SQL:** Advanced
- **LaTeX:** Advanced
- **Office suite:** Advanced
- **Python:** Intermediate
- **Java:** Intermediate
- **STATA:** Intermediate
- **SPSS:** Intermediate

Working Groups

Member of SMARTsports: “Statistical Models and AlgoriThms in sports. Applications in professional and amateur contexts, with able-bodied and disabled athletes”. Funded by the MIUR Progetti di Ricerca di Rilevante Interesse Nazionale (PRIN) Bando 2022 - grant n. 2022R74PLE (CUP J53D23003860006)

Professional Memberships and Editorial Service

Memberships

- Italian Statistical Society (SIS).
- Young Italian Statistical Society (y-SIS).
- Bayesian group of the Italian Statistical Society (SISBayes).
- International Society for Bayesian Analysis (ISBA).

Reviewer

- Statistical Modelling
- Computational Statistics
- Journal of Sports Analytics.

I give consent to process my data with the purpose of the recruitment process, in accordance to the Regulation of the European Parliament 679/2016, regarding the protection of natural persons and free movement of such data.

Trieste, 14 giugno 2025

FIRMATO