Manuele Leonelli

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School of Science and Technology, IE University, Madrid, Spain

Research Summary

I am an Assistant Professor of Statistics at IE University with a research focus on Bayesian networks, probabilistic graphical models, and their applications in various domains. My work bridges theory and practice, emphasizing explainability and robustness in statistical models. I have published extensively in leading journals, contributed to the development of open-source software, and collaborated with an international network of researchers.

Work Experience

- **School of Science and Technology, IE University** — *2019-Present*
  Assistant Professor of Statistics — Madrid, Spain
- **Faculty of Medicine and Health Sciences, McGill University** — *2019*
  Visiting Professor — Montreal, Canada
- **School of Mathematics and Statistics, University of Glasgow** — *2017-2019*
  Lecturer in Statistics — Glasgow, UK
- **Mathematical Institute, Federal University of Rio de Janeiro** — *2015-2016*
  PostDoctoral Researcher — Rio de Janeiro, Brazil

Education

- **Advance Higher Education, University of Glasgow** — *2017-2018*
  PostGraduate Certificate in Academic Practice — Glasgow, UK
- **Department of Statistics, University of Warwick** — *2011-2015*
  PhD in Statistics — Coventry, UK
- **Department of Statistics, University of Warwick** — *2010-2011*
  MSc in Statistics — Coventry, UK
- **Department of Mathematics, University of Genova** — *2007-2010*
  BSc in Mathematical Statistics and Data Management — Genova, Italy

Accreditations

- **Agency for the Quality of the University System of Catalonia** — *2019-Present*
  Accreditation as Lecturer Professor — Barcelona, Spain
- **Advance Higher Education** — *2019-Present*
  Member (upon completion of the Postagraduate Certificate in Academic Practice) — UK

Funding

- **AEI, State Research Agency: Knowledge Generation Projects 2023** — *2024-Present*
  Project: Semi-Parametric models for Human growth, Extremes and Recurrent Events in Survival Analysis — Total Funding: €62,500
  Code: PID2023-153222OB-I00
  Role: Co-Principal Investigator
- **University of Glasgow: Principal's Early Career Mobility Scheme** — *2019*
  Project: Flexible spatial statistical methods for extremes — Total Funding: £2,855
  Role: Visiting professor at McGill University
- **London Mathematical Society: Celebrating New Appointment Grant** — *2018*
  Code: 91806 — Total Funding: £600
  Role: Organizer of the 1st UK Workshop on Probabilistic Reasoning using CEGs
- **CAPES: Programa Nacional de Pós Doutorado** — *2015-2016*
  Role: Postdoctoral Researcher — Total Funding: R$49,200

[B.1] Manuele Leonelli and Gherardo Varando (2025). **Staged Tree Models: With Applications in R**. Forthcoming, *CRC Press*.

[J.21] Manuele Leonelli and Gherardo Varando (2024) **Robust learning of staged tree models: A case study in evaluating transport services**. *Socio-Economic Planning Sciences*, Vol. 95, pp. 102030. DOI: 10.1016/j.seps.2024.102030.
Journal Impact Factor (JIF): 6.2, **5-Year JIF:** 5.9, **Quartile:** Q1, **Area:** Operations Research & Management Science

[J.20] Gherardo Varando, Federico Carli and Manuele Leonelli (2024) **Staged trees and asymmetry-labeled DAGs**. *Metrika*, (to appear). DOI: 10.1007/s00184-024-00957-1.
Journal Impact Factor (JIF): 0.9, **5-Year JIF:** 1.0, **Quartile:** Q3, **Area:** Statistics & Probability

[J.19] Manuele Leonelli and Gherardo Varando (2024) **Structural learning of simple staged trees**. *Data Mining and Knowledge Discovery*, Vol. 38, pp. 1520–1544. DOI: 10.1007/s10618-024-01007-0.
Journal Impact Factor (JIF): 2.8, **5-Year JIF:** 5.3, **Quartile:** Q2, **Area:** Computer Science, Information Systems

[J.18] Manuele Leonelli and Gherardo Varando (2024) **Learning and interpreting asymmetry-labeled DAGs: A case study on COVID-19 fear**. *Applied Intelligence*, Vol. 54, pp. 1734–1750. DOI: 10.1007/s10489-024-05268-6.
Journal Impact Factor (JIF): 3.4, **5-Year JIF:** 3.9, **Quartile:** Q2, **Area:** Computer Science, Artificial Intelligence

[J.17] Maria T Filigheddu, Manuele Leonelli, Gherardo Varando, Miguel Á Gómez-Bermejo, Sofía Ventura-Díaz, Luis Gorospe and Jesús Fortún (2024) **Using staged tree models for health data: Investigating invasive fungal infections by aspergillus and other filamentous fungi**. *Computational and Structural Biotechnology Journal*, Vol. 24, pp. 12-22. DOI: 10.1016/j.csbj.2023.11.013.
Journal Impact Factor (JIF): 4.4, **5-Year JIF:** 5.0, **Quartile:** Q2, **Area:** Biochemistry & Molecular Biology

[C.7] Jack S Carter, Manuele Leonelli, Eva Riccomagno and Gherardo Varando (2024). **Learning staged trees from incomplete data**. In *Proceedings of the 12th International Conference on Probabilistic Graphical Models (PGM)*, pp. 231-252. PMLR. 11-13 September 2024, De Lindenberg, Nijmegen, the Netherlands.

[C.6] Manuele Leonelli and Gherardo Varando (2024). **Context-specific refinements of Bayesian network classifiers**. In *Proceedings of the 12th International Conference on Probabilistic Graphical Models (PGM)*, pp. 182-198. PMLR. 11-13 September 2024, De Lindenberg, Nijmegen, the Netherlands.

[S.7] Gherardo Varando, Manuele Leonelli, Jordi Cerdà-Bautista, Vasileios Sitokonstantinou and Gustau Camps-Valls (2024) **Staged event trees for transparent estimation of treatment effects**. Manuscript submitted for publication to the *28th International Conference on Artificial Intelligence and Statistics (AISTATS)*.

[S.6] Manuele Leonelli, Jim Q Smith and Sophia K Wright (2024). **The diameter of a stochastic matrix: A new measure for sensitivity analysis in Bayesian networks**. Manuscript submitted for publication in *European Journal of Operational Research*.

[S.5] Rafael Ballester-Ripoll and Manuele Leonelli (2024). **Global sensitivity analysis of uncertain parameters in Bayesian networks**. Major revision in *International Journal of Approximater Reasoning*.

[S.4] Carlos R Gonzalez Soffner and Manuele Leonelli (2024). **An analysis of factors impacting team strengths in the Australian Football League using time-variant Bradley-Terry models**. Manuscript submitted for publication in *Expert Systems with Applications*.

[S.3] Jack S Carter, Manuele Leonelli, Eva Riccomagno and Alessandro Ugolini (2024). **Staged trees for discrete longitudinal data**. Minor revision in *Metrika*.

[S.2] Manuele Leonelli (2024). **bnRep: A repository of Bayesian networks from the academic literature**. Manuscript submitted for publication in *Journal of Machine Learning Research*.

[S.1] Lucia Serrat Lacasta, Susana de la Cruz Vigo, and Manuele Leonelli (2024). **Evaluation of factors associated with fear and anxiety in the orthodontic treatment of adult patients**. Manuscript submitted for publication in *Journal of Clinical and Experimental Dentistry*.

[J.16] Manuele Leonelli, Ramsiya Ramanathan and Rachel L Wilkerson (2023) **Sensitivity and robustness analysis in Bayesian networks with the bnmonitor R package**. *Knowledge-Based Systems*, Vol. 278, pp. 110882. DOI: 10.1016/j.knosys.2023.110882.
Journal Impact Factor (JIF): 7.2, **5-Year JIF:** 7.4, **Quartile:** Q1, **Area:** Computer Science, Artificial Intelligence

[J.15] Rafael Ballester-Ripoll and Manuele Leonelli (2023) **The YODO algorithm: An efficient computational framework for sensitivity analysis in Bayesian networks**. *International Journal of Approximate Reasoning*, Vol. 159, pp. 108929. DOI: 10.1016/j.ijar.2023.108929.
Journal Impact Factor (JIF): 3.2, **5-Year JIF:** 3.2, **Quartile:** Q2, **Area:** Computer Science, Artificial Intelligence

[J.14] Federico Carli, Manuele Leonelli and Gherardo Varando (2023) **A new class of generative classifiers based on staged tree models**. *Knowledge-Based Systems*, Vol. 268, pp. 110488. DOI: 10.1016/j.knosys.2023.110488.
Journal Impact Factor (JIF): 7.2, **5-Year JIF:** 7.4, **Quartile:** Q1, **Area:** Computer Science, Artificial Intelligence

[C.5] Manuele Leonelli and Gherardo Varando (2023). **Context-specific causal discovery for categorical data using staged trees**. In *Proceedings of the 26th International Conference on Artificial Intelligence and Statistics (AISTATS)*, pp. 8871-8888. PMLR. 25-27 April 2023, Palau de Congressos, Valencia, Spain.

[R.3] Fabio Crimaldi and Manuele Leonelli (2023). **AI and the creative realm: A short review of current and future applications**. *arXiv preprint arXiv:2306.01795*.

[J.13] Manuele Leonelli and Eva Riccomagno (2022) **A geometric characterization of sensitivity analysis in monomial models**. *International Journal of Approximate Reasoning*, Vol. 151, pp. 64-84. DOI: 10.1016/j.ijar.2022.09.006.
Journal Impact Factor (JIF): 3.2, **5-Year JIF:** 3.2, **Quartile:** Q2, **Area:** Computer Science, Artificial Intelligence

[J.12] Rafael Ballester-Ripoll and Manuele Leonelli (2022) **Computing Sobol indices in probabilistic graphical models**. *Reliability Engineering & System Safety*, Vol. 225, pp. 108573. DOI: 10.1016/j.ress.2022.108573.
Journal Impact Factor (JIF): 9.4, **5-Year JIF:** 8.1, **Quartile:** Q1, **Area:** Operations Research & Management Science

[J.11] Christiane Görgen, Manuele Leonelli and Orlando Marigliano (2022) **The curved exponential family of a staged tree**. *Electronic Journal of Statistics*, Vol. 16, Issue 1, pp. 2607-2620. DOI: 10.1214/22-EJS1984.
Journal Impact Factor (JIF): 1.0, **5-Year JIF:** 1.2, **Quartile:** Q3, **Area:** Statistics & Probability

[J.10] Federico Carli, Manuele Leonelli, Eva Riccomagno and Gherardo Varando (2022) **The R package stagedtrees for structural learning of stratified staged trees**. *Journal of Statistical Software*, Vol. 102, Issue 6, pp. 1-30. DOI: 10.18637/jss.v102.i06.
Journal Impact Factor (JIF): 5.4, **5-Year JIF:** 8.4, **Quartile:** Q1, **Area:** Statistics & Probability

[C.4] Manuele Leonelli and Gherardo Varando (2022). **Highly efficient structural learning of sparse staged trees**. In *Proceedings of the 11th International Conference on Probabilistic Graphical Models (PGM)*, pp. 193-204. PMLR. 5-7 September 2022, Almería, Spain.

[C.3] Rafael Ballester-Ripoll and Manuele Leonelli (2022). **You only derive once (YODO): Automatic differentiation for efficient sensitivity analysis in Bayesian networks**. In *Proceedings of the 11th International Conference on Probabilistic Graphical Models (PGM)*, pp. 169-180. PMLR. 5-7 September 2022, Almería, Spain.

[J.9] Chiara Lattanzi and Manuele Leonelli (2021) **A change-point approach for the identification of financial extreme regimes**. *Brazilian Journal of Probability and Statistics*, Vol. 35, Issue 4, pp. 811-837. DOI: 10.1214/21-BJPS509.
Journal Impact Factor (JIF): 0.6, **5-Year JIF:** 0.8, **Quartile:** Q4, **Area:** Statistics & Probability

[J.8] Manuele Leonelli and Dani Gamerman (2020) **Semiparametric bivariate modelling with flexible extremal dependence**. *Statistics and Computing*, Vol. 30, pp. 221–236. DOI: 10.1007/s11222-019-09878-w.
Journal Impact Factor (JIF): 1.6, **5-Year JIF:** 2.0, **Quartile:** Q1, **Area:** Statistics & Probability

[J.7] Christiane Görgen and Manuele Leonelli (2020) **Model-preserving sensitivity analysis for families of Gaussian distributions**. *Journal of Machine Learning Research*, Vol. 21, Issue 84, pp. 1–32.
Journal Impact Factor (JIF): 4.3, **5-Year JIF:** 7.0, **Quartile:** Q1, **Area:** Automation & Control Systems

[J.6] Manuele Leonelli, Eva Riccomagno and Jim Q Smith (2020) **Coherent combination of probabilistic outputs for group decision making: An algebraic approach**. *OR Spectrum*, Vol. 42, pp. 499–528. DOI: 10.1007/s00291-020-00588-8
Journal Impact Factor (JIF): 1.4, **5-Year JIF:** 2.3, **Quartile:** Q3, **Area:** Operations Research & Management Science

[R.2] Miguel de Carvalho, Manuele Leonelli and Alex Rossi (2020). **Tracking change-points in multivariate extremes**. *arXiv preprint arXiv:2011.05067*.

[J.5] Manuele Leonelli (2019) **Sensitivity analysis beyond linearity**. *International Journal of Approximate Reasoning*, Vol. 113, pp. 106-118. DOI: 10.1016/j.ijar.2019.06.007.
Journal Impact Factor (JIF): 3.2, **5-Year JIF:** 3.2, **Quartile:** Q2, **Area:** Computer Science, Artificial Intelligence

[J.4] Manuele Leonelli, Christiane Görgen and Jim Q Smith (2017) **Sensitivity analysis in multilinear probabilistic models**. *Information Sciences*, Vol. 411, pp. 84-97. DOI: 10.1016/j.ins.2017.05.010.
Journal Impact Factor (JIF): 8.1, **5-Year JIF:** 7.5, **Quartile:** Q1, **Area:** Computer Science, Information Systems

[J.3] Manuele Leonelli and Jim Q Smith (2017) **Directed expected utility networks**. *Decision Analysis*, Vol. 14, Issue 2, pp. 108-125. DOI: 10.1287/deca.2017.0347.
Journal Impact Factor (JIF): 2.5, **5-Year JIF:** 2.0, **Quartile:** Q3, **Area:** Management

[J.2] Manuele Leonelli, Eva Riccomagno and Jim Q Smith (2017) **A symbolic algebra for the computation of expected utilities in multiplicative influence diagrams**. *Annals of Mathematics and Artificial Intelligence*, Vol. 81, pp. 273–313. DOI: 10.1007/s10472-017-9553-y.
Journal Impact Factor (JIF): 1.2, **5-Year JIF:** 1.1, **Quartile:** Q2, **Area:** Mathematics, Applied

[J.1] Manuele Leonelli and Jim Q Smith (2015) **Bayesian decision support for complex systems with many distributed experts**. *Annals of Operations Research*, Vol. 235, pp. 517–542. DOI: 10.1007/s10479-015-1957-7. **Journal Impact Factor (JIF):** 4.4, **5-Year JIF:** 4.4, **Quartile:** Q1, **Area:** Operations Research & Management Science

[C.2] Christiane Görgen, Manuele Leonelli and Jim Q Smith (2015). **A differential approach for staged trees**. In *Proceedings of the 13th European Conference on Symbolic and Quantitative Approaches with Uncertainty (ECSQARU)*, pp. 346–355. Springer. 15-17 July 2015, Compiègne, France.

[R.1] Jim Q Smith, Martine J Barons and Manuele Leonelli (2015). **Coherent frameworks for statistical inference serving integrating decision support systems**. *arXiv preprint arXiv:1507.07394*.

[C.1] Manuele Leonelli and Jim Q Smith (2013). **Using graphical models and multi-attribute utility theory for probabilistic uncertainty handling in large systems, with application to the nuclear emergency management**. In *Proceedings of the 29th International Conference on Data Engineering Workshops (ICDEW)*, pp. 181-192. IEEE. 8-12 April 2013, Brisbane, Australia.

SOFTWARE

- **The stagedtrees R package** *2019-Present*

stagedtrees is an R package which includes several algorithms for learning the structure of staged trees and chain event graphs from data. Score-based and clustering-based algorithms are implemented, as well as various functionalities to plot the models and perform inference.

- **The bnmonitor R package** *2021-Present*

bnmonitor implements sensitivity and robustness methods in Bayesian networks in R. It includes methods to perform parameter variations via a variety of co-variation schemes, to compute sensitivity functions and to quantify the dissimilarity of two Bayesian networks via distances and divergences. It further includes diagnostic methods to assess the goodness of fit of a Bayesian networks to data, including global, node and parent-child monitors.

- **The bnRep R package** *2024-Present*

bnRep is an open-source R package offering a comprehensive collection of documented BNs, facilitating benchmarking, replicability, and education. With over 200 networks from academic publications, bnRep integrates seamlessly with bnlearn and other R packages, providing users with interactive tools for network exploration.

- **The extrememix R package** *2024-Present*

extrememix implements Bayesian estimation of extreme value mixture models, estimating the threshold over which a Generalized Pareto distribution can be assumed as well as high quantiles and other measures of interest in extreme value theory.

SERVICE TO PROFESSION

- **PhD Examiner**
  - **External Examiner:** "*Multivariate time-series modelling and forecasting with high-order dynamic Bayesian networks applied in industrial settings*" by David Quesada López at the Universidad Politecnica de Madrid (2023).
  - **External Examiner:** "*Conditional preference networks: efficient dominance testing and learning*" by Kathryn Laing at the University of Leeds (2020).
  - **External Examiner:** "*Theoretical Studies on Bayesian Network Classifiers*" by Gherardo Varando at the Universidad Politecnica de Madrid (2018).
  - **Internal Examiner:** "*Hierarchical Hidden Markov Models with Applications to BiSulfite-Sequencing Data*" by Tusharkanti Ghosh at the University of Glasgow (2018).
- **Editorial and External Organizational Roles**
  - **Co-Chair:** *13th International Conference on Probabilistic Graphical Models*, Valencia (2026).
  - **Organizing Committee Member:** *trees4cat Workshop*, University of Genoa (2024).
  - **Program Committee Member:** *12th International Conference on Probabilistic Graphical Models*, Nijmegen (2024).
  - **Editor:** *Bernoulli News* (2019-2023).
  - **Organizer:** 1st UK Workshop on Probabilistic Modelling using Chain Event Graphs at the University of Glasgow (2019).

- **Referee:** *Annals of Applied Statistics*, *Bayesian Analysis*, *Brazilian Journal of Probability and Statistics*, *Communications in Statistics - Theory and Methods*, *Computational Statistics & Data Analysis*, *Environmental and Ecological Statistics*, *Environmetrics*, *Journal of the American Statistical Association*, *Information Sciences*, *International Journal of Approximate Reasoning*, *Statistical Methods & Applications*, *Test*.

- **Internal Organizational Roles**
  - **Hiring Committee Member:** Multiple tenure-track positions in Mathematics, Statistics, and Computer Science at the School of Science and Technology, IE University (2022-2023).
  - **Internship Advisor:** Bachelor in Data and Business Analytics at IE University (2019-Present).
  - **Academic Tutor:** 1st and 2nd year students in the Bachelor in Data and Business Analytics, IE University (2019-Present).
  - **Committee Member:** Development and approval of the Bachelor in Applied Mathematics at IE University (approved by ANECA - National Agency for Quality Assessment and Accreditation of Spain) (2022).
  - **Organizer:** Statistics Seminar at the University of Glasgow (2018-19).
  - **MSc Projects Coordinator:** MSc Statistics Projects at the University of Glasgow (2018-19).
  - **Individual Academic Advisor:** BSc in Statistics at the University of Glasgow (2017-2019).

- **Memberships and Outreach**
  - **Member:** *ELLIS Society* (only by recommendation of members of other countries and nationalities) (2023-Present).
  - **Outreach Presentation:** *The Mathematics of Music* at The Global College, Madrid, for IB program students (2021).
  - **Collaboration with Media:** Statistical expert for the newspaper *Newtral*.
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PRESENTATIONS

- **VII Latin American Meeting on Bayesian Statistics** — *December 2024*
  Contributed Presentation: A Bayesian MCMC framework for learning and reasoning with staged tree models — Belo Horizonte, Brazil
- **trees4cat Workshop** — *October 2024*
  Tutorial: Software for staged tree models — Genova, Italy
- **12th International Conference on Probabilistic Graphical Models** — *September 2024*
  Contributed Presentation: Learning staged trees from incomplete data — Nijmegen, The Netherlands
- **Learning on Graphs Conference 2024: Madrid Meetup** — *November 2023*
  Contributed Presentation: Asymmetry-labeled DAGs: Representation, learning and causal reasoning — Madrid, Spain
- **7th Workshop on Games and Decisions in Risk and Reliability** — *May 2023*
  Contributed Presentation: A global sensitivity analysis approach in Bayesian networks — Madrid, Spain
- **11th International Conference on Probabilistic Graphical Models** — *September 2022*
  Contributed Presentation: Highly efficient structural learning of sparse staged trees — Almería, Spain
- **Institute of Mathematical Statistics Annual Meeting** — *June 2022*
  Contributed Presentation: Staged trees and asymmetry-labeled DAGs — London, UK
- **7th Bayesian, Fiducial & Frequentist Conference** — *May 2022*
  Contributed Presentation: A conditional independence framework for coherent modularized inference — Toronto, Canada
- **13th International Conference on Computational and Methodological Statistics** — *December 2020*
  Contributed Presentation: Semiparametric bivariate modelling with flexible extremal dependence — Virtual
- **Incontro di Statistica Matematica** — *January 2020*
  Contributed Presentation: Modeling dependence with diagonal distributions — Sestri Levante, Italy
- **Graphical Models: Conditional Independence and Algebraic Structures** — *October 2019*
  Invited Presentation: Model-preserving sensitivity analysis for families of Gaussian distributions — Munich, Germany
- **ISBA World Meeting** — *July 2018*
  Poster Presentation: Extreme changepoint estimation in financial time series — Edinburgh, UK
- **1st Italian Meeting on Probability and Mathematical Statistics** — *June 2017*
  Contributed Presentation: Sensitivity analysis in graphical models - A polynomial approach — Torino, Italy
- **5th Workshop on Games and Decisions in Risk and Reliability** — *June 2017*
  Contributed Presentation: Directed expected utility networks — Madrid, Spain
- **22nd Simpósio Nacional de Probabilidade e Estatística** — *July 2016*
  Contributed Presentation: Semiparametric Bayesian multivariate models for extreme exceedances — Porto Alegre, Brazil
- **13th Encontro Brasileiro de Estatística Bayesiana** — *February 2016*
  Contributed Presentation: Integrating probabilistic outputs for coherent group decision making — Belo Horizonte, Brazil
- **13th Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty** — *July 2015*
  Contributed Presentation: A differential approach for staged trees — Compiègne, France
- **Algebraic Statistics 2015** — *June 2015*
  Contributed Presentation: The algebra of integrated partial belief systems — Genova, Italy

- **Calculating and Communicating Uncertainty** — *January 2015*
  Contributed Presentation: Uncertainty handling in integrating decision support systems — London, UK
- **ISBA World Meeting** — *November 2013*
  Contributed Poster: Bayesian decision support for complex systems with many distributed experts — Cancun, Mexico
- **American Nuclear Society - Winter Meeting 2013** — *November 2013*
  Contributed Presentation: Dynamic uncertainty handling for coherent decision making — Washington DC, USA
- **IEEE 29th International Conference on Data Engineering Workshops** — *June 2015*
  Contributed Presentation: Using graphical models for probabilistic uncertainty handling — Brisbane, Australia
- **Invited Departmental Seminars** — *2017-2024*
  University of Glasgow, Universidad Politecnica de Madrid, University of Leeds, University of Edinburgh, Queen Mary University, Universitá degli Studi di Genova, Universitat Pompeu Fabra, University of Venice, KTH Royal Institute of Technology — Various Institutions

Teaching

- **School of Science and Technology, IE University** — *2019-2024*
  Assistant Professors of Statistics — Madrid, Spain
  - **2024–2025**
    - *Customer Analytics* (BBADBA and BDBA) – 15 lectures, two groups;
    - *Discrete Mathematics for Computing* (MCSBT) – 15 lectures, one group;
    - *Financial Analytics* (BBADBA and BDBA) – 15 lectures, two groups;
    - *Forecasting and Time Series* (MBD) – 15 lectures, two groups;
    - *Mathematics Fundamentals* (MCSBT) - 6 lectures, one group;
    - *Probability for Computing Science* (BCSAI) - 15 lectures, two groups.
  - **2023–2024**
    - *Applied Machine Learning using Graphs* (BDBA) – 15 lectures, one group;
    - *Bayesian Statistics* (BDBA) – 15 lectures, one group;
    - *Discrete Mathematics for Computing* (MCSBT) – 15 lectures, one group;
    - *Machine Learning I* (MBD) – 15 lectures, one group;
    - *Mathematics Fundamentals* (MCSBT) – 6 lectures, one group;
    - *Probability for Computing Science* (BCSAI) – 15 lectures, one group;
    - *Statistics for Data Science* (MBD and SAMBD) – 15 lectures, two groups.
  - **2022–2023**
    - *Bayesian Statistics* (BDBA) – 15 lectures, one group;
    - *Discrete Mathematics for Computing* (MCSBT) – 15 lectures, one group;
    - *Mathematics Fundamentals* (MCSBT and MDBO) – 6 lectures, three groups;
    - *Probability for Computing Science* (BCSAI) – 15 lectures, two groups;
    - *Simulation and Modeling to Understand Change* (BBADBA) - 35 sessions, two groups.
  - **2021–2022**
    - *Bayesian Statistics* (BDBA) – 15 lectures, one group;
    - *Maths for Computing* (MCSBT and MDBI) - 15 lectures, two groups;
    - *Maths Lab* (MCSBT and MDBI) - 6 sessions, two groups;
    - *Probability for Computing Science* (BCSAI) – 15 lectures, one group;
    - *Simulation and Modeling to Understand Change* (BBADBA) - 35 sessions, two groups;
    - *Statistics and Probability* (MCSBT and MBDI) - 20 sessions, two groups.
  - **2020–2021**
    - *Bayesian Statistics* (BDBA) – 15 lectures, one group;
    - *Maths for Computing* (MCSBT and MDBI) - 15 lectures, one group;
    - *Maths Lab* (MCSBT and MDBI) - 6 sessions, one group;
    - *Simulation and Modeling to Understand Change* (BBADBA) - 35 sessions, two groups;
    - *Statistics and Probability* (MCSBT and MBDI) - 20 sessions, one group.
  - **2019–2020**
    - *Fundamentals of Probability and Statistics* (BBADBA) - 35 sessions, one group;
    - *Maths for Computing* (MCSBT and MDBI) - 20 lectures, one group;
    - *Maths Lab* (MCSBT and MDBI) - 6 sessions, one group;
    - *Simulation and Modeling to Understand Change* (BBADBA) - 35 sessions, one group;

- **School of Mathematics and Statistics, University of Glasgow** *2017-2019*
  Lecturer in Statistics Glasgow, UK
  - **2018–2019**
    - *Design of Experiments* (BSc and MSc in Statistics) – 24 lectures, one group;
    - *Introduction to R programming* (BSc and MSc in Statistics) – 20 lectures, two groups.
  - **2017–2018**
    - *Data Analysis* (MSc in Statistics) - 20 lectures, one group;
    - *Design of Experiments* (BSc and MSc in Statistics) – 24 lectures, one group;
    - *Introduction to Probability and Statistics* (PhD Course - College of Science) - 15 lectures, one group;
    - *Introduction to R programming* (BSc in Statistics) – 20 lectures, one group.
  - **2016–2017**
    - *Data Analysis* (MSc in Statistics) - 20 lectures, one group;
    - *Design of Experiments* (BSc and MSc in Statistics) – 24 lectures, one group;
    - *Introduction to Probability and Statistics* (PhD Course - College of Science) - 15 lectures, one group;

- **African Institute of Mathematical Sciences** *2019*
  Invited Instructor: PhD Course "Data Visualisation and Advanced Data Analysis" Accra, Ghana

- **1st LARS-IASC School on Computational Statistics and Data Science** *2018*
  Invited Instructor: PhD Course "Statistics of Extremes: Modelling, Inferences, and Applications" Salvador, Brazil

Supervision

- **School of Science and Technology, IE University** *2019-*
  Supervised five undergraduate final year projects (BCSAI and BBADBA) Madrid, Spain

- **School of Mathematics and Statistics, University of Glasgow** *2017-2019*
  Supervised eight undergraduate final year projects (BSc in Statistics) Glasgow, UK
  Supervised six postgraduate final year projects (MSc in Statistics)

Teaching Awards

- **Awards for Teaching Excellence** *2019-Present*
  Over 20 awards issued by IE University for teaching courses with students evaluations over 4.50. Madrid, Spain

Student Awards

- **John Copas PhD Thesis Prize** *2016*
  Best statistics PhD thesis at the University of Warwick Coventry, UK

- **Departmental PhD Bursary - University of Warwick** *2011-2015*
  PhD in Statistics Coventry, UK

- **Departmental MSc Bursary - University of Warwick** *2010-2011*
  MSc in Statistics Coventry, UK

Additional Information

Languages: English (Fluent), Italian (Mother tongue), Portuguese (Intermediate), Spanish (Fluent)
Interests: Crossfit, Volleyball, Tennis