Federico Pavone

Experience

- 2023 MathInGreaterParis Postdoctoral Fellow, Université Paris Dauphine-PSL, Paris
- present Postdoctoral fellow at CEREMADE under the supervision of Prof. Robin Ryder.
 - 2023 Research Visit, King Abdullah University of Science and Technology, Thuwal (Saudi Arabia)
- 2019–2023 Doctoral Researcher, Bocconi University, Milan, Italy

Statistical modelling of complex data applied to social sciences under the supervision of Prof. Daniele Durante

- o Learning and forecasting age-specific mortality rates, with Sirio Legramanti, Daniele Durante
 - o Phylogenetic trees and network models for criminal networks, with Daniele Durante, Robin Ryder

2020–2023 Teaching Assistant, Bocconi University, Milan, Italy

- Preparing and giving exercise lectures, project supervision, office hours.
- Courses: Data Analysis (3 years), Machine Learning (3 years), Statistics (2 years), Applied Stochastic Processes (2 years), Principles of Business Analytics (2 years), Metodi Quantitativi per la Finanza (2 years), Bayesian Statistical Methods (1 year).
- 2018–2019 **Research Assistant**, *Aalto University*, Probabilistic Machine Learning Group, Helsinki, Finland Working on variable selection under the projection predictive approach under the supervision of Prof. Aki Vehtari.

Education

- 2024 PhD in Statistics, Bocconi University, Milan, Italy Advisor: Daniele Durante, Title: Advances in Bayesian modelling of array structured data
- 2019 **MSc in Mathematical Engineering, Polytechnic University of Milan**, Milan, Italy, *with honors* Major in Applied Statistics.
- 2016 BSc in Mathematical Engineering, Polytechnic University of Milan, Milan, Italy, with honors

Editorial Experience

2023 Reviewer, Bayesian Analysis

Awards

- 2023 MathInGreaterParis: Marie Skłodowska-Curie COFUND Postdoctoral Fellowship
- 2022 Best poster award, The 2022 ISBA World Meeting, Montreal, Canada
- 2016–2018 **Merit Scholarship**, *Polytechnic University of Milan*, Milan, Italy For academic achievements for Master's degree at Polytechnic University of Milan

Papers

- 2024 F. Pavone, D. Durante, and R. Ryder, "Phylogenetic latent position models", working paper
- 2024 **F. Pavone**, S. Legramanti, and D. Durante, "Learning and forecasting of age-specific period mortality via B-spline processes with locally-adaptive dynamic coefficients", **The Annals of Applied Statistics** (*forthcoming*), [arXiv'22], [code]
- 2022 **F. Pavone** and S. Legramanti, "Bayesian Analysis of Mortality in Iceland via Locally Adaptive Splines", **Book of Short Papers SIS 2022**, [pdf]
- 2022 **F. Pavone**, J. Piironen, P.-C. Bürkner, and A. Vehtari, "Using reference models in variable selection", **Computational Statistics**, pp. 1–23, [arXiv'20], [code]

Conferences and Seminars

- July 2024 ISBA world meeting, Venice, Italy, invited talk
- 18 Dec 2023 CMStatistics, Berlin, Germany, invited talk
- 14 Jul 2023 SELECT Final Workshop, Venice, Italy, invited talk
- 20 Oct 2022 Bayesian Methods for the Social Sciences, Paris, France, poster
- 2022–2023 Bocconi PhD seminars, Milano, Italy, talks
- 1 Sep 2022 Workshop: Climbing Mortality Models, Misurina, Italy, invited talk
- 29 Jul 2022 ISBA world meeting, Montreal, Canada, best poster award
- 23 Jun 2022 Scientific Meeting of the Italian Statistical Society, Caserta, Italy, invited talk
- 22 Sep 2020 Università Cattolica seminars, Milan, Italy, invited talk

Schools and short courses

- Oct 2023 Short course: Data Analysis on the Sphere, KAUST, Saudi Arabia
- 27-29 Mar Probabilistic Numerics Spring School, Tübingen, Germany
- 2023
 - 26 Jun Introduction to Bayesian Nonparametric methods for causal inference, Montreal, Canada,
 2022 ISBA 2022 short course

Skills

Scientific: Bayesian statistics, Machine learning, Mathematics Technical: R, C++, Stan, Python, Matlab, Git, Bash, Latex Languages: Italian (native), English (fluent)

Projects

2017-2018 C++/R package for density function estimation

Optimized R package in C++ to perform density function estimation through smoothing splines based on Machalova, Hron and Monti (2016). Project carried out by a three-person team. https://github.com/fpavone/pacs_spline_density

2017-2018 Bayesian model for AVIS donations

AVIS is the main italian institute for blood donations. The goal was to build a Bayesian model for the gap times between different donations of different donors. Software used was R with its interface to Stan. Project carried out by a two-person team.

2017 Spacescope

Identified stars hosting exoplanets in NASA dataset using multivaried and functional data statistics tools in R. Project carried out by a five-person team.

Miscellaneous

Music: guitar, piano Sports: Brazilian jiu jitzu purple belt, hiking