+39 3319975872
federico.pavone@phd.unibocconi.it
fpavone.github.io
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Federico Pavone

Experience

2019–present **Doctoral Researcher**, *Bocconi University*, Milan, Italy
Statistical modelling of complex data applied to social sciences under the supervision of Prof. Daniele Durante
- Learning and forecasting age–specific mortality rates, with Sirio Legramanti, Daniele Durante
- Phylogenetic trees and network models for criminal networks, with Daniele Durante, Robin Ryder
- Stochastic tempering for B-CART models, with Guglielmo Gattiglio, Daniele Durante, Giacomo Zanella

2020–2023 **Teaching Assitant**, *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

2019–present **PhD in Statistics, Bocconi University**, Milan, Italy
Supervisor: Daniele Durante,
Title: Advances in statistical modelling of complex data

2018–2019 **MSc in Mathematical Engineering, Polytechnic University of Milan**, Milan, Italy, *with honors*
Major in Applied Statistics.

2013–2019 **BSc in Mathematical Engineering, Polytechnic University of Milan**, Milan, Italy, *with honors*

Skills

Scientific: Bayesian statistics, Machine learning, Mathematics

Technical: R, C++, Stan, Python, Matlab, Git, Bash, Latex

Languages: Italian (native), English (fluent)

Papers

2022 **F. Pavone**, D. Durante, and R. Ryder, "Phylogenetic trees and network models for criminal networks", *working paper*

2022 G. Gattiglio, **F. Pavone**, D.Durante, and G. Zanella, "Stochastic tempering for B-CART models", *working paper*

2022 **F. Pavone**, S. Legramanti, and D. Durante, "Learning and forecasting of age-specific period mortality via B-spline processes with locally-adaptive dynamic coefficients", *submitted*, [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

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

Awards

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

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