Roberta Falcone

Curriculum Vitae

Current position

Oct 2019 – Present	**Research fellow**, *Department of Statistical Sciences*, University of Bologna. Research project: "Statistical models for digital health applications and site monitoring", co-funded by *CROS NT*. Project: construction of an algorithm aimed at predicting the center behaviour in multi-center clinical trials through the application of statistical learning methodologies. Analysis and modelling of high resolution accelerometry data.
2021	**Adjunct professor**, *Department of Statistical Sciences*, University of Bologna.

Education

2020	**PhD in Statistics**, *XXXII cycle*, University of Bologna. Thesis title: *"Supervised Classification with Matrix Sketching"*, supervisor prof. Angela Montanari.
2016	**Master degree in Statistical Sciences**, *University of Bologna*, marks 110/110 cum laude. Thesis title: *"Algebraic issues in variable selection for linear mixed models"*, supervisor prof. Angela Montanari.
April – September 2016	**Internship at Montecatone Rehabilitation Institute SpA**, *for the project: "Analisi statistica di dati clinici ed epidemiologici nello studio delle neurolesioni"*. I have supported research activities and I have analyzed the data of the Registro Regionale delle mielolesioni.
2014	**Bachelor in Statistical Sciences**, *Stats and maths curriculum*, University of Bologna, marks 110/110 cum laude. Project: *"Model-based clustering methods"*, supervisor prof. Angela Montanari.

Teaching activity

2021	Teaching activity for the course Laboratorio di Analisi dei Dati, Bachelor in Statistical Sciences, University of Bologna.
2021	Teaching activity for the Data Science course for CROS NT.
2021	Teaching tutorship for the course Supervised Statistical Learning, Master's degree in Statistical Sciences, University of Bologna, lecturer Prof. Laura Anderlucci.
2017 – 2021	Teaching tutorship for the course Modelli Lineari, Bachelor in Statistical Sciences, University of Bologna, lecturer Prof. Angela Montanari.
2015 – 2020	Teaching tutorship for the course Algebra, Bachelor in Statistical Sciences, University of Bologna, lecturer Prof. Daniele Ritelli.

Awards

2019 – 2020	**SIE Scholarship** grant, Soroptimist International. The grant is aimed at spending a 3 month period at a European Institution doing research in Biostatistics.
June 25-27, 2017	**Admission to StartUp Research Workshop**, *Antica Certosa di Pontignano (Siena)*. A 2-day meeting where small research groups of young scholars, advised by senior researchers with a well-established experience in different areas of Statistics, have been asked to develop innovative methods and models to analyze a dataset from the Neurosciences.
May 22-26, 2017	**Member of the winning team**, *International Summer School on Clustering and Classification*, Rimini. The summer school organized a data science competition to award the best research team in terms of prediction accuracy and originality of the solution.
April 2016 – October 2016	**Scholarship** on *"Analisi statistica di dati clinici ed epidemiologici nello studio delle neurolesioni"*, awarded by the Department of Statistical Sciences, University of Bologna, within a research collaboration with Montecatone Rehabilitation Institute SpA.

Conference Presentations

○ December, 2019 - **CMStatistics 2019**, 14-16 December 2019, London, Invited Talk, *"Matrix Sketching in linear discriminant analysis: An efficient strategy for different problems"* (with L. Anderlucci and A. Montanari).

○ September, 2019 - **CLADAG 2019**, 11-13 September 2019, Cassino, Contributed Talk, *"Random projections of variables and units"* (with L. Anderlucci and A. Montanari).

○ August, 2019 - **IFCS 2019**, 26-29 August 2019, Thessaloniki, Greece, Invited Talk, *"Supervised Classification of long or unbalanced datasets"* (with L. Anderlucci and A. Montanari).

○ February, 2019 - **CARME**, 3-6 February 2019, Stellenbosch - Cape Town, South Africa, Plenary Talk, *"Matrix Sketching as a tool for Big Data Multivariate Analysis"* (with L. Anderlucci and A. Montanari).

○ December, 2018 - **CMStatistics 2018**, 14-16 December 2018, Pisa - Invited Talk, *"Supervised classification with matrix sketching"* (with L. Anderlucci and A. Montanari).

○ September, 2018 - **MBC2 - Model based Clustering and Classification**, 5-7 September 2018, Catania - Poster Presentation, *"Supervised classification with matrix sketching"* (with L. Anderlucci and A. Montanari).

○ July, 2018 - **IMPS 2018**, 10-13 July 2018, New York - *"Supervised classification with matrix sketching"* (with L. Anderlucci and A. Montanari).

Publications

2021   C. Brega, S. Calvi, M. Pin, L. Anderlucci, R. Falcone, A. Albertini, *"Surgical aortic valve replacement for low gradient aortic stenosis: is EuroSCORE II a reliable risk predictor of mortality?"* , submitted.

2020   R. Falcone, L. Anderlucci, A. Montanari, *"Matrix sketching for supervised classification with imbalanced classes"*, under review.

2019   L. Anderlucci, R. Falcone, A. Montanari, *"Random projections of variables and units"*, CLADAG Conference, Cassino, Book of Short Papers, 30-33.

2017   V. Corallo, M. Torre, G. Ferrara, F. Guerra, G. Nicosia, E. Romanelli, A. Lopopolo, M. P. Onesta, P. Fiore, R. Falcone, J. Bonavita, M. Molinari, G. Scivoletto, *"What do spinal cord injury patients think of their improvement? A distribution and anchor based study of the minimal clinically important difference of the Spinal Cord Independence Measure III (SCIM III)"*, European Journal of Physical and Rehabilitation Medicine, Vol. 53, 508-515.

Computer Skills

○ Office package, R, SPSS, SAS, BUGS, LaTeX, beamer.

Language Skills

○ English (B2 level), French (B1 level).