

PERSONAL INFORMATION

Matteo Borrotti



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📅 Date of birth 4 September 1981 | 🇮🇹 Nationality Italian

WORK EXPERIENCE

January 2022 – Present

Associate Professor in Statistics

University of Milano-Bicocca
Piazza dell'Ateneo Nuovo 1, 20126 Milano

January 2019 – December 2021

Assistant Professor in Statistics

University of Milano-Bicocca
Piazza dell'Ateneo Nuovo 1, 20126 Milano

December 2015 – December 2018

Data Scientist

Energia Crescente S.r.l.
Piazza Missori 2, 20100 Milano

EDUCATION AND TRAINING

2008–2011

PhD in Statistics

Thesis Title: “An evolutionary approach to the design of experiments for combinatorial optimization with an application to enzyme engineering”
University of Bologna, Italy

2006–2007

II Level International Master in Computational and System Biology

Center for Computational and Systems Biology
The Microsoft Research - University of Trento, Italy

2003–2006

Master Degree in Statistics for Business Management

Ca' Foscari University of Venice, Italy

PERSONAL SKILLS

Mother tongue Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

Computer skills – competent with R software and Matlab
 – experience with Python

Driving licence A, B

ADDITIONAL INFORMATION

Academic Roles – 2020 – Present // Member of the Energy Commission, University of Milano-Bicocca
 – 2019 – Present // Steering committee member of the Bicocca Data Science Lab
 University of Milano-Bicocca

Editorial activities – Topic Editor of Energies (Mar 2021-now)
 – Referee for: Neural Computing and Applications, Expert Systems with Applications, Optimization, Statistics & Computing, Computational Statistics & Data Analysis, European Journal of Operational Research.

Organization of scientific events – Member of the organising committee of The European R Users Meeting
 eRum 2020: 27-30 May 2020, Milan, Italy
 – Member of the organising committee of the 1st COBRA Summer School
 BioChemITSchool2012: 9-21 September 2012, San Candido, Italy
 – Member of the organising committee of the International Conference in Model Oriented Data
 Analysis
 mODa9: 14-18 June 2010, Bertinoro, Italy

Organization of conference sessions and workshops – Organiser of invited session, "Statistical Learning for decision-making systems"
 CFE-CMStatistics 2021, onsite & online conference (18-20 Dec 2021), London, UK
 – Organiser of invited session, "Statistical Learning for decision-making systems"
 CFE-CMStatistics 2020, virtual conference (19-21 Dec 2020), London, UK
 – Organiser of the 1st Workshop on Computer-aided and Bio-chemical Strategies for the Design of Stochastic Experiments (31 July 2014), Milan, Italy

Conference services – Program committee:

- 8th International Online & Onsite Conference on Machine Learning, Optimization, and Data Science, Certosa di Pontignano, Tuscany, Italy (18-22 Sept 2022).
- 8th International Conference on Time Series and Forecasting, Gran Canaria, Spain (27-30 Jun 2022).
- 7th International Online & Onsite Conference on Machine Learning, Optimization, and Data Science, Grasmere, Lake District, UK (4-8 Oct 2021).
- 7th International conference on Time Series and Forecasting, Gran Canaria, Spain (19-21 Jul 2021).

Participation to International Research Projects

- *DC-ren* - EU research project. 2019-ongoing.
- *ENERGIDRICA* - efficienza energetica nella gestione delle reti idriche PON and FSC research project “Ricerca e Innovazione”, 2014-2020.
- *FIDEAS* - National project funded by *Regione Lombardia*. 2014-2015.
- *Str.A.T.E.G.A* - National project funded by *Agenzia Provinciale per l’Incentivazione delle Attività Economiche* of Trento (Italy). 2012-2014.
- *iNSPIRE* - Eu research project. 2012-2014.
- *DICE* - National research project funded by *Fondazione di Venezia*. 2009-2012.
- *Evolutionary Statistical Methods* - National project funded by the Italian Government, PRIN. 2007.
- *PACE* - EU research project. 2004-2008.

Teaching

- *Introduction to Neural Networks and further advances*, Statistics for Data Science (MSc), University Carlos III of Madrid (2023)
- *Statistical Learning* (eng), Artificial Intelligence for Science and Technology (MSc), University of Milan-Bicocca (2023)
- *Foundations of Probability and Statistics* (ita/eng), Data Science (MSc), University of Milan-Bicocca (2022, 2023)
- *Deep Learning* (eng), Reading Course, Economics and Statistics (PhD), University of Milan-Bicocca (2021, 2022)
- *Introduction to Deep Learning* (ita), Statistics (MSc), University of Milan-Bicocca (2020, 2021, 2022)
- *Statistics I* (ita), Statistics (BA), University of Milan-Bicocca (2020)
- *Data Mining* (ita), Statistics (BA), University of Milan-Bicocca (2018, 2019, 2020, 2021, 2022)
- *Pattern Recognition* (eng), I Level Master in Data Science for Management, Università Cattolica del Sacro Cuore (2017, 2018, 2019)
- *Experimental Designs and Statistics* (eng), Conservation Science and Technology for Cultural Heritage, Ca’ University of Venice (2019)
- *Optimization methods for Carbon Management* (eng), I Level Master in Sustainability and Carbon Footprint Management, Ca’ Foscari University of Venice, (2013)
- *Statistics I* (ita), Statistics (BA), Ca’ Foscari University of Venice, (2012, 2013-tutor)
- *Statistics II* (ita), Statistics (BA), Ca’ Foscari University of Venice, (2011, 2012-tutor, 2013-tutor)

CONFERENCES, SEMINARS AND VISITING

Invited talks (11)

- CMStatistics 2021, 15th *Workshop of the ERCIM Working Group on Computational and Methodological Statistics*, London, UK (17-19 December 2022)
- BISP10, 10th *International Workshop on Bayesian Inference in Stochastic Process*, Milan, Italy (13-15 Jun 2017)
- mODa11, 11th *Workshops on Model-Oriented Data Analysis and Optimum Design*, Hamminkeln-Dingden, Germany (12-17 Jun 2016)
- 48^{èmes Journées de Statistique de la SFdS, Montpellier, France, (20 May - 3 Jun 2016)}
- ERCIM2014, 7th *Workshop of the ERCIM Working Group on Computing and Statistics*, Pisa, Italy, (6-8 Dec 2014)
- ERCIM2011, 4th *Workshop of the ERCIM Working Group on Computing and Statistics*, ERCIM, London, UK (17-19 Dec 2011)
- DEMA2011, *Designed Experiments: Recent Advances in Methods and Application*, Cambridge, UK (30 Aug-2 Sep 2011)
- ERCIM2010, 3rd *Workshop of the ERCIM Working Group on Computing and Statistics*, ERCIM, London, UK (10-12 Dec 2010)
- ICNAAM, 8th *International Conference of Numerical Analysis and Applied Mathematics*, Rhodes, Greece (19-25 Sep 2010)
- COMPSTAT, 19th *International Conference on Computational Statistics*, COMPSTAT, Paris, France (22-27 Aug 2010)
- ERCIM2009, 2nd *Workshop of the ERCIM Working Group on Computing and Statistics*, Limassol, Cyprus (28-31 Oct 2009)

- Contributed talks (6)**
- LOD 2021, 7th International Online & Onsite Conference on Machine Learning, Optimization, and Data Science, Grasmere, Lake District, UK (4-8 Oct 2021).
 - SIS2021, 50th Scientific Meeting of the Italian Statistical Society, Palermo, Italy (21-25 Jun 2021).
 - AIAI 2019, 15th International Conference on Artificial Intelligence Applications and Innovations, Crete, Greece (24–26 May 2019)
 - SIS2018, 49th Scientific Meeting of the Italian Statistical Society, Palermo, Italy (20-22 Jun 2018).
 - ENBIS Spring Meeting 2018, Florence, Italy (4-6 Jun 2018).
 - mODa10 10th *Workshops on Model-Oriented Data Analysis and Optimum Design*, mODa10, Lagów Lubuski, Poland (10-14 Jun 2013)
 - SMPS2012, 6th *International Conference on Soft Methods in Probability and Statistics*, Konstanz, Germany (4-6 Oct 2012)
 - mODa9, 9th *Workshops on Model-Oriented Data Analysis and Optimum Design*, mODa9, Bertinoro, Italy (14-18 Jun 2010)
- Seminars (2)**
- King's College London, London, UK (Jan 2020)
 - IRIDIA, Université libre de Bruxelles, Brussels, Belgium (Feb 2009)
- Research visits**
- IRIDIA, Université libre de Bruxelles, Brussels, Belgium (Jan to Jul 2009)
 - GSK, GlaxoSmithKline, Harlow, UK (Jul to Sept 2007),

PUBLICATIONS

Publications in refereed journals

- 1) Borrotti, M., Rabasco, M., and Santoro, A., Using accounting information to predict aggressive tax location decisions by European groups, *Economic Systems*, Available online 5 March 2023.
- 2) Borrotti, M., Sambo, F., and Mylona, K., Multi-objective optimisation of split-plot designs, *Econometrics and Statistics*, Available online 9 April 2022.
- 3) Riboni, A., Ghioldi, N., Candelieri, A., and Borrotti, M., Bayesian optimization and deep learning for steering wheel angle prediction, *Scientific Reports*, Vol. 12, pp. 1–13, 2022.
- 4) Lucarelli, G., and Borrotti, M., A deep Q-learning portfolio management framework for the cryptocurrency market, *Neural Computing and Applications*, Vol.32, pp. 17229–17244, 2020.
- 5) Borrotti, M., Sambo, F., Mylona, K., and Gilmour, S., A multi-objective coordinate-exchange two-phase local search algorithm for multi-stratum experiments, *Statistics and Computing*, Vol. 27, pp. 469–481, 2017.
- 6) Borrotti, M., Lanzarone, E., Manganini, F., Ortelli, S., Pievatolo, A., and Tonetti, C., Defect minimization and feature control in electrospinning through design of experiments, *Journal of Applied Polymer*, Vol 134, 2017.
- 7) Piccolomini, A. A., Fiabon, A., Borrotti, M., and De Lucrezia, D., Optimization of thermophilic trans-isoprenyl diphosphate synthase expression in *Escherichia coli* by response surface methodology, *Biotechnology and Applied Biochemistry*, Vol. 64, pp. 70-78, 2017.
- 8) Borrotti, M., Minervini, G., De Lucrezia, P., and Poli, I., Naïve Bayes ant colony optimization for designing high dimensional experiments, *Applied Soft Computing*, Vol. 49, pp. 459–468, 2016.
- 9) Borrotti, M., Pievatolo, A., Degiorgi, A., Critelli, I., and Colledani, M., A computer-aided methodology for the optimization of electrostatic separation processes in recycling, *Applied Stochastic Models in Business and Industry*, Vol. 32, pp. 133–148, 2016.
- 10) Coccon, F., Bossi, G., Borrotti, M., P. Torricelli, and P. Franzoi, A land-use perspective for wildlife strike risk assessment at airports: the Attraction Risk Index, *PlosOne*, Vol. 10, 2015.
- 11) Zennaro, P., Kehrwald, N.M., McConnel, J.R., Schüpbach, S., Maselli, O., Marlon, J., Valleslonga, P., Leuenberger, D., Zangrando, R., Spolaor, M., Borrotti, M., Barbaro, E., Gambaro, A., and Barbante, C., Fire in ice: two millennia of northern hemisphere fire history from the Greenland NEEM ice core, *Climate of the Past*, Vol. 10, pp. 1905–1925, 2014.
- 12) Borrotti, M., De March, M., Slanzi, D., Poli, I., Designing lead optimisation of MMP-12 Inhibitors, *Computational and Mathematical Methods in Medicine*, Vol. 2014, pp. 1–8, 2014.
- 13) Sambo, F., Borrotti, M., and Mylona, K., Coordinate-exchange two-phase local search: an optimal algorithm for D-efficient and I-efficient second-order split-plot designs, *Computational Statistics and Data Analysis*, Vol. 71, pp. 1193–1207, 2014.
- 14) Ferrari, D., Borrotti, M., and De March, D., Response improvement in complex experiments by co-information composite likelihood optimization, *Statistics and Computing*, Vol. 24, pp. 351–363, 2014.
- 15) Zemella, G., De March, D. Borrotti, M, and Poli, I., Optimised design of energy efficient building façades via evolutionary neural networks, *Energy and Buildings*, vol. 43, pp. 3297–3302, 2011.
- 16) Pizza, F., Contardi, S., Baldi Antognini, A., Zagoraiou, M., Borrotti, M., Mostacci, B., Mondini, and S., Cirignotta, F., Sleep quality and car accidents in adolescents, *Journal of Clinical Sleep Medicine*, Vol. 6, No. 1, 2010.

- Books and chapters in books
- 17) Riboni, A., Candelieri, A., and Borrotti, M., Deep autonomous agents comparison for self-driving cars, *In: G. Nicosia et al. (Eds.) Machine Learning, Optimization, and Data Science. LOD 2021. Lecture Notes in Computer Science*, Vol 13163, pp. 201–213, Springer-Verlag, 2022.
 - 18) Lucarelli, G., and Borrotti, M., A deep reinforcement learning approach for automated cryptocurrency trading, *In J. MacIntyre et al. (Eds.), Artificial Intelligence Applications and Innovations*, Vol. 559, pp. 247–258, Springer-Verlag, 2019.
 - 19) Borrotti, M., and Pievatolo, A., A multi-objective Bayesian sequential design based on Pareto optimality, *Advances in Model-Oriented Design and Analysis, Contributions to Statistics*, pp. 47–54, Springer-Verlag, Springer-Verlag, 2016.
 - 20) De March, D., Borrotti, M., Sartore, L., Slanzi, D., Podestà, L., and Poli, I., A predictive approach based on neural network models for building automation systems, *In S. Bassis et al. (Eds.), Advances in Neural Networks: Computational and Theoretical Issues, Smart Innovation Systems and Technology*, Vol. 37, pp. 253–262, Springer-Verlag, 2015.
 - 21) Slanzi, D., Borrotti, M., Orlando, D., De March, D., Giove, S., and Poli, I., Qualitative Particle Swarm Optimization (Q-PSO) for energy efficient building designs, *In C. Pizzuti et al. (Eds.), Advances in Artificial Life and Evolutionary Computation, Communications in Computer and Information Science*, Vol. 445, pp. 13–25, Springer-Verlag, 2014.
 - 22) Ferrari, D., and Borrotti, M., Maximum entropy design in high dimensions by composite likelihood modeling, *In D. Ucinski et al. (Eds.), Advances in Model-Oriented Design and Analysis, Contributions to Statistics*, pp. 73–80, Springer-Verlag, 2013.
 - 23) Borrotti, M., and Poli, I., Naïve Bayes ant colony optimization for experimental design, *In R. Kruse et al. (Eds.), Synergies of Soft Computing and Statistics for Intelligent Data Analysis, Advances in Intelligent Systems and Computing*, Vol. 190, pp. 489–497, Springer-Verlag, 2013.
 - 24) Borrotti, M., and Poli, I., Naïve Bayes ant colony optimization for experimental design, *In R. Kruse et al. (Eds.), Synergies of Soft Computing and Statistics for Intelligent Data Analysis, Advances in Intelligent Systems and Computing*, Vol. 190, pp. 489–497, Springer-Verlag, 2013.
 - 25) Borrotti, M., De Lucrezia, D., Minervini, G., and Poli, I., A model based ant colony design for the protein engineering problems, *In M. Dorigo et al. (Eds.), ANTS 2010, Lecture Notes in Computer Science*, Vol. 6263, pp. 352–359, Springer-Verlag, 2010.
- Conference proceedings and technical reports
- 26) Bacino, V., Zoccarato, A., Liberati, C., and Borrotti, M., Statistical learning for credit risk modelling. *In Book of Short Papers SIS 2021*, Vol. 2021, pp. 1624–1629, 2021.
 - 27) Bogni, S., Slanzi, D., and Borrotti, M., Q-learning estimation techniques for Dynamic Treatment Regime. *In Book of Short Papers SIS 2021*, Vol. 2021, pp. 578–583, 2021.
 - 28) Hassan Elbedawi Omar, M., and Borrotti, M., Customer churn prediction based on eXtreme gradient boosting classifier. *In Book of Short Papers SIS 2018*, Vol. 2018, pp. 775–780, 2018.
 - 29) Borrotti, M., A model based algorithm for evolutionary design of experiments, *In F. Hutter et al. (Eds.), SLS-DS 2009, Technical Report N. TR/IRIDIA/2009-024*, IRIDIA, 2009.

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.