Roberto Ascari

Contact information	**University of Milano-Bicocca**	DoB: 08/06/1991
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Professional experience
University of Milano-Bicocca Postdoctoral fellow (Jun 2019 - today)
University of Milano-Bicocca Research associate (Apr 2019 - Jun 2019)
San Raffaele Hospital, Milan Internship (November 2012 - April 2013)

Research Interest
Compositional data, Bayesian, Mixture models, Computational statistics, Regression models

Education

University of Milano-Bicocca
Ph.D., Statistics and Mathematics for Finance, 2015 - 2018.
Curriculum: Statistics
Thesis: A family of Flexible Mixture distributions for constrained data

University of Milano-Bicocca
M.Sc., Biostatistics, 2013 - 2015, 110/110 with honors.
Thesis: MCMC Bayesian estimation for a particular mixture model on the simplex

University of Milano-Bicocca
B.Sc., Statistics and Information Management, 2010 - 2013, 107/110.
Thesis: Mortality and respiratory tract infections in a population of 7000 patients undergoing cardiac surgery.

Publications

International journals

Ascari, R., Migliorati, S., (2021). A new regression model for overdispersed binomial data accounting for outliers and an excess of zeros. *Statistics in Medicine.* `https://doi.org/10.1002/sim.9005`

Oliveira dos Anjos, T.B., [et al, including **Ascari, R.**] (2021). Eutrophic status influences the impact of pesticide mixtures and predation on Daphnia pulex populations. *Ecology and Evolution.* 11(9), 4046-4057. `https://doi.org/10.1002/ece3.7305`

Sorrentino, S., **Ascari, R.**, et al (2021). Microglial heterogeneity and its potential role in driving phenotypic diversity of alzheimer's disease. *International Journal of Molecular Sciences.* `https://doi.org/10.3390/ijms22052780`

Ongaro, A., Migliorati, S., **Ascari, R.** (2020). A new mixture model on the simplex. *Statistics and Computing*, 30, 749-770. `https://doi.org/10.1007/s11222-019-09920-x`

Maranzano, P., **Ascari, R.**, Chiodini, P.M., Manzi, G. (2020). Analysis of sustainability of bike-sharing customers using Partially Ordered Sets methodology. *Social indicator research.* `https://doi.org/10.1007/s11205-020-02333-8`

Scandroglio, A., Finco, G., [et al, including **Ascari, R.**] (2015). Cardiac surgery in 260 octogenarians: a case series. *BMC Anesthesiology*, 15. `https://doi.org/10.1186/1471-2253-15-15`

Pieri, M., Landoni, G., [et al, including **Ascari, R.**] (2015). Methicillin-resistant staphylococcus species in a cardiac surgical intensive care unit. *Signa Vitae.* `https://doi.org/10.22514/SV102.122015.5`

Contributions in books

Ascari, R., Migliorati, S., Ongaro, A. (2021). The Double Flexible Dirichlet: a structured mixture model for compositional data. *Applied Modeling Techniques and Data Analysis 2: Financial, Demographic, Stochastic and Statistical Models and Methods.* ISBN: 9781786306746, `https://doi.org/10.1002/9781119821724.ch10`

Ascari, R., Migliorati, S., Ongaro, A. (2019). Bayesian inference for a mixture model on the simplex. *Studies in Classification, Data Analysis, and Knowledge Organization.* `https://doi.org/10.1007/978-3-030-21140-0_11`

Contributions in proceedings	**Ascari, R.**, Di Brisco, A., Migliorati, S., Ongaro, A. (2021). Alternative parameterizations for regression models with constrained multivariate responses. *Book of short papers SIS2021*. ISBN: 9788891927361

Ascari, R. and Migliorati, S. (2021). A full mixture of experts model to classify constrained data. *Book of short papers CLADAG 2021*. ISBN: 78-88-5518-340-6

Maranzano, P., **Ascari, R.**, Chiodini, P.M., Manzi, G. (2021). Awareness of sustainability among elderly bike-sharing users. *Book of short papers SIS2021*. ISBN: 9788891927361

Ascari, R., Migliorati, S. (2020). The flexible beta-binomial regression model. *Proceeding SMTDA2020*.

Ascari, R., Migliorati, S., Ongaro, A. (2020). A new prior distribution on the simplex: the extended flexible Dirichlet. *Book of short papers SIS2020*. ISBN: 9788891910776

Ascari, R., Migliorati, S., Buono, E. (2019). A new regression model for discrete data allowing for overdispersion. *Book of abstracts of CMStatistics 2019*. ISBN: 978-9963-2227-8-0

Di Brisco, A.M., **Ascari, R.**, Migliorati, S., Ongaro, A. (2019). A new regression model for bounded multivariate responses. *Smart Statistics for Smart Applications; Book of short papers SIS2019*. ISBN: 9788891915108

Ascari, R., Migliorati, S., Ongaro, A. (2019). A new simplex distribution allowing for positive covariances. *Proceeding of ASMDA2019*. ISBN: 978-618-5180-33-1

Ascari, R., Migliorati, S., Ongaro, A. (2018). A new Dirichlet-multinomial mixture model for count data. *Book of abstracts of CMStatistics 2018*. ISBN: 978-9963-2227-5-9

Ascari, R., Migliorati, S., Ongaro, A. (2017). A special Dirichlet mixture model in a Bayesian perspective. *Book of short papers CLADAG2017*. ISBN: 978-88-99459-71-0

Ascari, R., Migliorati, S., Ongaro, A. (2017). The Extended Flexible Dirichlet model: a simulation study. *Proceeding of ASMDA2017*. ISBN: 978-618-5180-23-2

Submitted and working papers	A multivariate mixture regression model for constrained responses *(submitted to "Bayesian Analysis" journal, second step)*.

FlexReg: an R package for beta-based regression models.

A mixture regression model for multinomial data.

An extension of the Latent Dirichlet Allocation.

Scientific activities

Conference
presentations

A full mixture of experts model to classify constrained data.
9-11 September 2021, Florence (Italy). Turned virtual.

Organizer of the "Regression models for responses with bounded support" session
at the Applied Stochastic Models and Data Analysis International Conference.
1-4 June 2021, Athens (Greece). Turned virtual.

A new regression model for count compositions. *Contributed talk at the 19th Conference of
the Applied Stochastic Models and Data Analysis International Society.* 1-4 June 2021, Virtual.

Alternative parameterizations for regression models with constrained multivariate responses.
Contributed talk at the SIS2021. 21-25 June 2021, Virtual.

The flexible beta-binomial regression model. ***Invited talk*** *at the 6th Stochastic Modeling
Techniques and Data Analysis International Conference.* 2-5 June 2020, Virtual.

A new regression model for discrete data allowing for overdispersion.*Contributed talk at the
12th International Conference of the ERCIM WG on Computational and Methodological
Statistics.* 14-16 December 2019, London (UK).

A new regression model for bounded multivariate responses. *Contributed talk at the SIS2019
Conference - Smart Statistics for Smart Applications.* 18-21 June 2019, Milan (Italy).

A new simplex distribution allowing for positive covariances. *Contributed talk at the 18th
Conference of the Applied Stochastic Models and Data Analysis International Society.*
11-14 June 2019, Florence (Italy).

A new Dirichlet-multinomial mixture model for count data. *Contributed talk at the 11th
International Conference of the ERCIM WG on Computational and Methodological Statistics.*
14-16 December 2018, Pisa (Italy).

A Special Dirichlet Mixture Model in a Bayesian Perspective. *Contributed talk at the 11th
CLAssification and Data Analysis Group.* 13-15 September 2017, Milan (Italy).

The Extended Flexible Dirichlet model: a simulation study. *Contributed talk at the 17th
Conference of the Applied Stochastic Models and Data Analysis International Society.*
6-9 June 2017, London (UK).

Seminars	17 November 2021 - Department of Economics at the University of Crete - link
Softwares	Author and maintainer of the R package **FlexReg**
Schools & Workshops	Applied Bayesian Statistics School: Bayes, big data, and the Internet, held by Steven Scott. 29 August - 2 September 2016, Como (Italy). Workshop on Academic Writing and Publishing, held by Duncan Nicholas. 14 February 2020, Milan (Italy).
Other activities	Reviewer for the 'Social Indicators Research' international journal. Reviewer for the 'Applied Modeling Techniques and Data Analysis' collective volume. Reviewer for the 'Computational Statistics and Data Analysis' international journal. Reviewer for the 'Electronic Journal of Statistics' international journal.

Teaching activities

Courses	Introduction to R (2019/20, 2020/21, 2021/22). M.Sc. in Statistical and Economics Sciences, University of Milano-Bicocca (Lecturer).
	Statistics I - Second Part (2016/17, 2017/18, 2018/19). B.Sc in Statistics and Information Management, University of Milano-Bicocca (Assistant).
	Statistics III (2015/16, 2017/18). B.Sc in Statistical and Economics Sciences, University of Milano-Bicocca (Tutor).
	Statistical Models (2015/16, 2016/17, 2017/18, 2019/20, 2020/21). B.Sc in Statistical and Economics Sciences, University of Milano-Bicocca (Tutor).
	Introduction to R (2020/21). B.Sc in Statistical and Economics Sciences, University of Milano-Bicocca (Tutor).
Supervised students	Consultant for Bachelor's degree in Statistical and Economics Sciences. 2019: Buono, E.
	Second thesis advisor for Master's degree in Statistical and Economics Sciences. 2019: Ongaro, A., Casiraghi, D. 2020: Panizza, S., Zatti, C. 2021: Floriani, G., Buono, E., Marcer, A., Cardone, L.
	Second thesis advisor for Master's degree in Biostatistics. 2019: De Martini, G.

Awards & fellowships	Scholarship for the Ph.D. in Statistics, University of Milano-Bicocca (Nov 2015 - Oct 2018).
	Research scholarship for the project "Mixture models for variables with limited support and related regression models" (Apr 2019 - Jun 2019).
	Research grant (type B) for the project "Simplex distributions: new proposals and applications" (Jun 2019 - Mar 2020).
	Research grant (type A) for the project "Inference for complex models" (Apr 2019 - today).
Abroad experiences	Jan. 2018 - Feb. 2018. Research collaboration activity & Attendee of the Seminar Series organized by the Department of Statistical Science, University College of London (UK).
Funds	2020ATE - "Fondo di Ateneo". Construction, analysis and application of parametric and non-parametric statistical models. 2019ATE - "Fondo di Ateneo". Construction, analysis and application of parametric and non-parametric statistical models.
Affiliations	Italian Statistical Society (SIS) Young group of the Italian Statistical Society (y-SIS) International Society for Bayesian Analysis (ISBA)
Languages	Italian (native), English (good).
Softwares	R, stan, SAS, SPSS, LaTeX.