Roberto Di Mari, Ph.D.

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Nationality: Italian

Date of birth: November 26, 1988

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Current Position

Assistant Professor of Statistics at the Department of Economics and Business, University of Catania (Italy), since May, 2018.

Past Positions

- *Postdoctoral researcher* in Statistics at the Department of Economics and Business, University of Catania (Italy), from November, 2016 to May, 2018.
Lecturer (Cultore della Materia) since September, 2017.

Education

- *Ph.D.* (with distinction) in Economics and Finance, 2017, University of Rome Tor Vergata, Italy; Ph.D. thesis on *Finite Mixture Models*, supervised by Prof. R. Rocci (University of Rome Tor Vergata) and co-supervised by Prof. J. K. Vermunt (Tilburg University). Attended the one-year graduate program at the Einaudi Institute for Economics and Finance (EIEF, Bank of Italy, 2013).

- *Visiting PhD student*, 2015, at the Department of Methodology and Statistics of Tilburg University (Tilburg, Netherlands).

- *Master of Science* in Economics, 2011-2013, University of Rome Tor Vergata, Rome, Italy; final dissertation in Statistics, on *Finite Mixtures of Linear Models: Numerical Evidences and Application to SHIW Data*, supervised by Prof. R.Rocci (University of Rome Tor Vergata) with final grade: 110/110.

- *Bachelor Degree* in Economics, 2011, University of Catania, Italy; final dissertation in Statistics, *Peer effects on academic outcome* supervised by Prof. S.Ingrassia (University of Catania).

- *Erasmus Exchange Student*, 2009 - 2010, University of Lille 1, France.

Research Interests

Model-Based Clustering; Finite Mixture models; Latent Variable models; Latent Class analysis; Latent (Hidden) Markov models.

Membership in Professional Societies

- Italian Statistical Society (SIS), Psychometric Society, Classification and Data Analysis Group of the Italian Statistical Society (CLADAG).

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[1]Last update: May 16, 2018.

External Service Contributions

Refereeing Activities
- *Advances in Data Analysis and Classification, Biometrical Journal, Computational Statistics and Data Analysis, Statistical Modelling, Statistical Methods and Applications.*

Scientific and Organizing Committee Activities

- 3rd International Workshop on *Model-Based Clustering and Classification (MBC^2)*, Catania (Italy), September 5–7, 2016 (Local Organizer).

- 2nd International Workshop on *Model-Based Clustering and Classification (MBC^2)*, Catania (Italy), September 3–5, 2014 (Local Organizer).

- International Workshop on *Model-Based Clustering and Classification (MBC^2)*, September 5–7, 2012 (Local Organizer).

List of Publications

A. Peer-Reviewed Articles

1. <u>Di Mari</u>, R., and Bakk, Z. (2017). Mostly harmless direct effects: a comparison of different latent Markov modeling approaches. *Structural Equation Modeling: A Multidisciplinary Journal.* http://dx.doi.org/10.1080/10705511.2017.1387860

2. <u>Di Mari</u>, R., Rocci, R., and Gattone, G. A. (2017). Clusterwise linear regression modeling with soft scale constraints. *International Journal of Approximate Reasoning, 91, 160-178.*

3. Rocci, R., Gattone, S. A., and <u>Di Mari</u>, R. (2017). A data driven equivariant approach to constrained Gaussian mixture modeling. *Advances in Data Analysis and Classification.* DOI: 10.1007/s11634-016-0279-1.

4. <u>Di Mari</u>, R., Oberski, D.L, and Vermunt, J.K. (2016). Bias-adjusted three-step latent Markov modeling with covariates. *Structural Equation Modeling: A Multidisciplinary Journal, 23(5), 649-660.*

B. Submitted Articles

1. <u>Di Mari</u>, R., Rocci, R. and Gattone, S.A. (2018). Constrained maximum likelihood estimation of clusterwise linear regression models with unknown number of components. *Under review. Available at* `http://arxiv.org/abs/1804.05185`.

2. Catania, L. and <u>Di Mari</u>, R. (2018). Hierarchical Hidden Markov Models for Multivariate Integer-Valued Time-Series. *Under review. Available at* `https://ssrn.com/abstract=3087201`.

3. <u>Di Mari</u>, R., Punzo, A. and Bakk, Z. (2018). Cluster-weighted latent class modeling. *Under review. Available at* `https://arxiv.org/abs/1801.01464`.

C. Book chapters

4. <u>Di Mari</u> R., Rocci R., Gattone S.A. (2017). Finite Mixture of Linear Regression Models: An Adaptive Constrained Approach to Maximum Likelihood Estimation. In: "Ferraro M. et al. (Eds.), *Soft Methods for Data Science. Advances in Intelligent Systems and Computing*", vol. 456. Springer, ISBN 978-3-319-42971-7.

D. Short papers in conference proceedings

5. Di Mari R., Bakk, Z. (2017). Stepwise latent Markov modeling with covariates in the presence of direct effects. In: "Greselin F. et al. (Eds.), *Book of Short Papers CLADAG 2017*", ISBN 978-88-99459-71-0.

Presentations and Posters

In Seminars

- Seminar on *Three-step approach in the context of latent Markov modeling with covariates.* Department of Economics and Finance, University of Rome Tor Vergata (IT) - December 2015.

- Seminar on *Three-step approach in the context of latent Markov modeling with covariates.* Department of Economics and Business, University of Catania (IT) - June 2015.

- Seminar on *Finite mixture of linear regression models: an adaptive constrained approach to maximum likelihood estimation.* Department of Economics and Finance, University of Rome Tor Vergata (IT) - November 2014.

In Invited Sessions

- Talk on *Generalized linear models with measurement error in the covariates: a latent Markov approach.* Session's title: *Recent Advances on Clustering and Classification*, in the "49th Meeting of the Italian Statistical Society", 20-22 June 2018, Palermo, Italy.

- Talk on *Handling missing data with multiple imputation using LC models to investigate predictors of HPV infection*. Session's title: *Recent developments in latent class analysis and its applications*, in "The 22nd International Conference on Computational Statistics (COMPSTAT 2016)", 23-26 August 2016, Auditorium Principe Felipe, Oviedo, Spain.

In Contributed Sessions

- Talk on *Latent Markov Modeling With Covariates in the Presence of Direct Effects,* in the "CLAssification and Data Analysis Group (CLADAG) 2017" conference, Milan (Italy), September 13-15, 2017.

- Talk on *Latent Markov Modeling With Covariates in the Presence of Direct Effects,* in the "International Meeting of the Psychometric Society (IMPS) 2017" conference, Zurich (Switzerland), July 18-21, 2017.

- Talk on *Finite mixture of linear regression models: an adaptive constrained approach to maximum likelihood estimation,* in the "Soft Methods in Probability and Statistics" conference, Rome (Italy), September 12-14, 2016.

- Talk on *Three-step approach in the context of latent Markov modeling with covariates,* in the "Flemish Dutch Classification Society Meeting", Nijmegen (Netherlands), May 29, 2015.

Posters

- Poster on *Finite mixture of linear regression models: an adaptive constrained approach to maximum likelihood estimation,* in the "MBC2 Model-Based Clustering and Classification" workshop, Catania, September 5-7, 2016.

Teaching Activities

- *Tutorial instructor*, May 2018. R tutorial for clustering and visualization of complex data at the Summer School on Clustering, Data Analysis and Visualization of Complex data in Catania (Italy), jointly organized by the International Association for Statistical Computing (IASC), European Courses in Advanced Statistics (ECAS), and the classification group of the Italian Statistical Society (CLADAG).

- *Tutorial instructor*, May 2017. R tutorial for clustering methods at the Summer School on Clustering and Classification, organized in Rimini (Italy) by the classification group of the Italian Statistical Society (CLADAG).

- *Teaching assistant*, September - October 2014. Tutorials for the course in Statistics of Prof. M. Mezzetti for Master MEI at University of Rome Tor Vergata, consisting of 12-hour teaching duties and office hours.

- *Teaching assistant*, September - October 2014 Teaching assistance for the course in Statistical Computing (Matlab) of Dr. A. Ramponi for Master MEI at University of Rome Tor Vergata.

Languages

- Italian (mother tongue), English and French (fluent), Spanish (Basic).

Computer Skills

R, Stata, Matlab, SPSS, Latent GOLD, LateX, Ms Office Suite, Unix-based distributions (Mac OsX and Linux), Windows.

Interests

Family, Computers, Books, Comics, Martial Arts, Outdoor Activities.