Emanuele Aliverti

Contact Information	Dipartimento di Economia Università Ca' Foscari Venezia Cannaregio 873 30121, Venezia, Italy	✉ emanuele.aliverti@unive.it 🌐 emanuelealiverti.github.io 🏛 0000-0002-6321-014X 🎮 emanuelealiverti

Research Interests

Applied statistics; Bayesian modeling; Categorical data; Computational methods; Low-dimensional representations; Scalable inference.

Current positions

Assistant Professor of Statistics (Ricercatore secs-s/01, Legge 240/10 tipo a)
Dipartimento di Economia, Università Ca' Foscari Venezia. (since 09/2020)

Adjunct Professor
Dip. di Scienze Statistiche, Università degli Studi di Padova. (since 03/2020)

Past positions

Postdoctoral research fellow
Dip. di Scienze Statistiche, Università degli Studi di Padova. (10/2019 – 08/2020)

Visiting Research Scholar
Duke University, Department of Statistical Sciences (10/2017 – 11/2018)

Education

Università degli Studi di Padova, Padova, Italy

Ph.D. in Statistical Sciences (Dottorato di ricerca in Scienze Statistiche),
Department of Statistical Sciences (10/2016 – 09/2019, defense 02/2020)
  » Advisor: Bruno Scarpa and David B. Dunson (co-supervisor)
  » Thesis topic: "Bayesian modeling of complex dependence structures"

M.S. in Statistical Sciences (*Laurea Magistrale in Science Statistiche*),
Department of Statistical Sciences (10/2014 – 09/2016)
  » Advisor: Bruno Scarpa
  » Thesis topic: "Bayesian semi-parametric modeling of network-valued data"

Università degli Studi di Milano-Bicocca, Milano, Italy

B.S. in Sociology (*Laurea Triennale in Sociologia*),
Department of Sociology (10/2011 – 09/2014)

Liceo Scientifico E. Fermi, Cantù (CO), Italy

Maturità scientifica PNI (Piano Nazionale Informatica) (09/2005 – 07/2010)

Awards

Academic

› Best Presentation award, SIS 2019 (€300)

› Travel award, O-Bayes 2019 (£400)

› Travel award, Fairness in Machine Learning Workshop.
  Google (Boston, MA), 2018 (full travel accommodation)

› Young researcher travel award, ISBA 2018 ($400)

Seminars

> Composite mixture of log-linear models with application to psychiatric studies, Florida State Unversity, Florida, October 2020

> Statistical Learning, MIB Trieste School of Management, Trieste, September 2020

> Bayesian modeling of network data, Binary data Lab opening, Dhaka, Bangladesh, July 2020

Invited presentations

> Modellazione Bayesiana di dati categoriali (in Italian).
XXVI Congresso AIP Sezione Sperimentale, Milan, Italy, Sep 2020

> Bayesian modeling of brain data, *Binary Data Lab Inauguration*, Dhaka, Bangladesh (online), Aug 2020

> Composite mixture of loglinear models for multivariate categorical data.
BNP4CD final meeting, Padova, Italy, Jan 2020

> Bayesian modeling of brain connectivity data via latent space models.
StaTalk2019, Trieste, Italy, November 2019

> Modellazione Bayesiana di dati di rete cerebrali (in Italian).
XXV Congresso AIP Sezione Sperimentale, Milan, Italy, September 2019

> Composite mixture of loglinear models for multivariate categorical data.
SIS 2019, Milan Italy, June 2019 [*Winner of the price "Best Presentation"*]

> Low rank approximation with fairness guarantees.
7th International Conference of the ERCIM, Pisa, Italy, December 2018

> Fairness in Machine Learning Workshop.
Google's Cambridge Office, Boston (MA), September 2018

Contributed presentations

> A Bayesian semiparametric model for terrorists networks.
SIS 2017, Florence, Italy, June 2017 (contributed talk)

Poster presentations

> Variational inference for network modeling. O-Bayes 2019, Coventry, July 2019.

> Scalable inference for network factor model, ASPD 2018, Padova, September 2018.

> Bayesian modeling of contingency tables subject to mutual information constraints, ISBA 2018, Edimburgh, June 2018

> A Bayesian model for terrorist networks.
Sixth international workshop on network analysis, Naples, May 2017

After the Ph.D.

> Probabilistic Machine Learning, Bocconi University. Instructor: David Dunson.

During the Ph.D. program

> Research Camp, San Servolo Island, Venice, July 2019.

> Stat under the stars 3. Florence, Italy, June 2017

> Startup-Research, University of Siena, June 2017.

During the Ph.D. program

> Department of Statistical Science, Duke University, Durham, NC, USA. Visiting Research Scholar under the supervision of prof. David Dunson (10/2017 – 03/2018 and 09/2018 – 11/2018)

Positions in Academic Societies

> Elected Chair of the board (2021) of the young group (ySIS) of the Italian Statistical Society

> Elected member of the board (2020) of the young group (ySIS) of the Italian Statistical Society

> Editorial board (2020-) of Young Statistician Europe (YSE)

Organization of Scientific Events

> Organizer of the seminar 'Developments in Bayesian Nonparametrics', youngstats world seminars (Online, 2021)

> Organizer of the specialized section 'Light methods for hard problems', 50th Scientific Meeting of the Italian Statistical Society (Pisa, 2021)

Referee for

> Annals of Applied Statistics; Communication in Statistics; Computational Statistics and Data Analysis; Electronic Journal of Operational Risk; Journal of Computational and Graphical Statics; Journal of the Royal Statical Society - Series A, C; Mathematics; PLOS-ONE.

Membership

> International Society for Bayesian Analysis (2017–now)

> Società Italiana di Statistica (2016-now)

Other affiliations

> Bayesian Learning Laboratory (BAYESLAB)

> Complex Data Modeling Research Network (MIDAS)

University of Padova, department of Statistical Sciences

> Elected representative of Ph.D. students and Postdoctoral researchers in the Faculty Board (2016-2020)

> Elected representative of Ph.D. students in the Doctoral Board of the Grad School (*Collegio Docenti scuola di Dottorato*, 2016-2019)

> Member of the Master's Degree board (*Consiglio corso di studi LM*, 2020)

> Thesis co-supervision: Marco Viano (2020, supervisor: Bruno Scarpa), Sofia Curzio (2020, supervisor: Bruno Scarpa), Federico Zanghi (2020, supervisor: Bruno Scarpa)

Research projects

> "Unfolding the SEcrets of LongEvity: Current Trends and future prospects (SELECT)", PRIN (MIUR). PI: Stefano Campostrini. Position: Member of the Research Group.

> "Fair predictive algorithms", Laura and John Arnold Foundation (2017). PI: David Dunson. Position: Co-investigator.

Università Ca' Foscari Venezia

MASTER'S DEGREE IN ECONOMICS AND FINANCE

> Statistical Methods for Risk Analysis. 6 CFU, 2020/2021.

Università degli Studi di Padova

MASTER'S DEGREE IN STATISTICS

> Social Media. Main instructor (Titolarità). 9 CFU. 2019/2020, 2020/2021

> Introduction to parallel computing and Rcpp. Specialist lectures during the class: Analisi dei Dati e Data Mining. (4 hours, 2019/2020)

> Introduction to network analysis. Specialist lectures during the class: Analisi dei Dati e Data Mining. (4 hours, 2017/2018 & 4 hours 2018/2019).

BACHELOR'S DEGREE IN STATISTICS

> Introduction to parallel and cloud computing. Theory and applications with R and Spark. Specialist lectures during the class: Statistical Methods for Big Data. (6 hours, 2018/2019).

Università di Modena e Reggio Emilia

BACHELOR'S DEGREE IN ECONOMICS

> Statistics for Economics and Social Sciences. Esercitazioni. (30 hours, 2018/2019)

Publications in refereed journals

> Scocco P., Aliverti E., Toffol E., Andretta G., Capizzi G. (2020). Empathy profiles differ by gender in people who have and have not attempted suicide. *Journal of Affective Disorders Reports*. In press. ⬀ [doi:10.1016/j.jadr.2020.100024]

> Aliverti, E., Lum, K., Johndrow J. and Dunson D. (2020). Removing the influence of a group variable in high-dimensional predictive modelling. *Journal of the Royal Statistical Society, Series A.*, In press. ⬀ [doi:10.1111/rssa.12613]

> Aliverti, E., Tilson, J., Filer, D., Babcock, B., Colaneri, A., Ocasio, J., Gershon, T., Wilhelmsen, K. and Dunson, D. (2020). Projected t-SNE for batch correction. *Bioinformatics*, 36(11), 2020, 3522–3527. ⬀ [doi:10.1093/bioinformatics/btaa189]

> Aliverti E., Durante D. (2019), Spatial modeling of brain connectivity data via latent distance models with nodes clustering, *Statistical Analysis and Data Mining*, 12, 185-196. ⬀ [doi:10.1002/sam.11412]

Discussions

> Rigon, T., Aliverti, E., Russo, M., and Scarpa, B. (2021). A discussion on: "Centered partition processes: Informative priors for clustering" Paganin, S., Herring, A. H., Olshan, A. F., Dunson, D. B., et al. (2021) in *Bayesian Analysis*

> Aliverti, E., Paganin, S., Rigon, T. and Russo, M. (2019). A discussion on: "Latent nested nonparametric priors" by Camerlenghi, F., Dunson, D.B., Lijoi, A., Prünster, I. and Rodriguez, *Bayesian Analysis*, 14(4), 1303–1356 ⬀ [doi:10.1214/19-BA1169]

Submitted pre-prints

> Aliverti, E. and Russo M. (2021). Dynamic modeling of the Italians' attitude towards Covid-19

> Aliverti, E. Mazzuco, S. and Scarpa B. (2021). Dynamic modeling of mortality via mixtures of skewed distribution functions. ⬀

> Aliverti, E. and Russo M. (2020). Stratified stochastic variational inference for high-dimensional network factor model. ⬀

> Aliverti, E. and Dunson D. (2020). Composite mixture of log-linear models for categorical data ⬀

Book Chapters

> Aliverti E., Durante D. and Scarpa B. (2020). Projecting Proportionate Age–Specific Fertility Rates via Bayesian Skewed Processes. *Developments in Demographic Forecasting,* Springer Series on Demographic Methods and Population Analysis. ⬀ [doi:10.1007/978-3-030-42472-5]

> Aliverti E., Forastiere L., Padellini T., Paganin S. and Wit E. (2018). Hierarchical Graphical Model for Learning Functional Network Determinants. *Studies in Neural Data Science* Springer Proceedings in Mathematics & Statistics. ⬀ [doi:10.1007/ 978-3-030-00039-4]

Refereed conference proceedings

> Aliverti, E. (2020). Bayesian modelling of Facebook communities via latent factor models, in *Proceedings of the Conference of the Italian Statistical Society 2017, 405* [ISBN 9788899459710]

> Durante, D. and Aliverti, E. (2017). Spatial modeling of brain connectivity data, in *Cladag 2017 Book of Short Papers* [ISBN 978-88-6453-521-0]

> Aliverti, E. (2017). A Bayesian semi-parametric model for terrorist networks, in *Proceedings of the Conference of the Italian Statistical Society 2017, 405* [ISBN 9788899459710]

OTHER

Programming

> Languages: R (advanced), C / C++ (advanced), Python (advanced), Julia (intermediate), Bash (intermediate);

> Markup: HTML, LaTeX, Hugo, CSS;

> Other: Apache Spark (basic).