Cristian Castiglione

CURRICULUM VITAE

Contact information

Bocconi University
Bocconi Institute for Data Science and Analytics (BIDSA)
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e-mail: `cristian_castiglione@libero.it` (personal)

Research interests

Bayesian Statistics, Computational Statistics, Spatial Statistics, Mixed and Additive Models.

Current academic position

April 2024 – Present
Postdoctoral Research fellow
Bocconi University, Bocconi Institute for Data Science and Analytics (BIDSA)
Project: *Causes of deAth dependence stRuctures and the cOmpositioNal effecT on ovErall mortality (CARONTE)*
Professor of referral: Prof. Daniele Durante

Past academic position

February 2023 – April 2024
Postdoctoral Research fellow
University of Padova, Department of Statistical Sciences
Project: *Statistical methods and models for the integration of multiomic data*
Professor of referral: Prof. Davide Risso

Education

October 2019 – May 2023
PhD Student in Statistical Sciences
University of Padova, Department of Statistical Sciences
Thesis title: *Approximate inference for misspecified additive and mixed regression models*
Supervisor: Prof. Mauro Bernardi
Co-supervisor: Prof. Laura M. Sangalli
Co-supervisor: Prof. Alessio Farcomeni

October 2016 – November 2018
Master degree (*laurea specialistica/magistrale*) in Statistical Sciences
University of Padova, Department of Statistical Sciences
Title of dissertation: *Dynamic quantile models for spatio-temporal data*
Supervisor: Prof. Mauro Bernardi
Final mark: 110/110 cum Laude

September 2013 – July 2016
Bachelor degree (*laurea triennale*) in Statistics, Economics and Finance.
University of Padova, Department of Statistical Sciences
Title of dissertation: *Multistate models for competing risks*
Supervisor: Prof. Giuliana Cortese
Final mark: 110/110

Work experience

January 2019 – September 2019
Junior consultant in business intelligence and analytics
Blue BI S.R.L.

Awards and scholarship

June 2017
Best Report Prize at *Stats Under the Stars 3 (SuS3)*.

Computer skills

- Advanced knowledge of `R`, `C++`, `Python` and `Julia`
- Good knowledge of `Stan` and `Keras`
- Basic knowledge of `Matlab`
- Good knowledge of LaTeX
- Basic knowledge of `MySQL`

Language skills

- Italian: native
- English: good (written/spoken)

Publications

Manuscripts

Castiglione, C., Bernardi, M. (2024+). Bayesian non-conjugate regression via variational message passing. Publicly available at `https://arxiv.org/abs/2206.09444`.

Castiglione, C., Segers, A., Clement, L. and Risso, D. (2024+). Stochastic gradient descent estimation of generalized matrix factorization models with application to high-dimensional omics data.

Published articles

Castiglione, C., Arnone, E., Bernardi, M., Farcomeni, A., Sangalli, L.M. (2024). PDE-regularised spatial quantile regression. *Journal of Multivariate Analysis* (in press).

Conference proceedings

Castiglione, C., Arnone, E., Bernardi, M., Farcomeni, A., Sangalli, L. M. (2023). Penalized quantile regression for spatially distributed data. In *Book of Short Papers GRASPA 2023, Proceedings of the GRASPA 2023 Conference* (Adelfio, G. and Abbruzzo, A.), pp. 124–129.

Castiglione, C., Bernardi, M. (2022). Probabilistic load forecasting via dynamic quantile regression. In *Book of Short Papers IWSM 2022, Proceedings of the 36th International Workshop on Statistical Modeling* (Torelli, N., Bellio, R. and Muggeo, V.), pp. 400–405.

Castiglione, C., Bernardi, M. (2022). Sparse signal extraction via variational SVM. In *Book of Short Papers SIS 2022, Proceedings of the 51th Scientific Meeting of the Italian Statistical Society* (Balzanella, A., Bini, M., Cavicchia, C. and Verde, R.), pp. 864–870.

Castiglione, C., Bernardi, M. (2021). Semiparametric variational inference for Bayesian quantile regression. In *Book of Short Papers SIS 2021, Proceedings of the 50th Scientific Meeting of the Italian Statistical Society* (Perna, C., Salvati, N. and Schirripa Spagnolo, F.), pp. 683–688.

Conference presentations

Castiglione, C., Bianco, N. (2024). Improving Bayesian semiparametric regression via increasing shrinkage priors. (poster presentation) *2024 World Meeting of the International Society for Bayesian Analysis (ISBA 2024)*, Venice, Italy, 1 – 7 July.

Castiglione, C., Arnone, E., Bernardi, M., Farcomeni, A., Sangalli, L. M. (2024). A flexible framework for spatial quantile regression via PDE regularization. (invited presentation) *International Symposium on Nonparametric Statistics (ISNPS 2024)*, Braga, Portugal, 25 – 29 July.

Castiglione, C., Bianco, N. (2023). Increasing shrinkage in Bayesian nonparametric regression for differential expression analysis. (poster presentation) *2023 IMS International Conference on Statistics and Data Science (ICSDS 2023)*, Lisbon, Portugal, 11 – 14 November.

Castiglione, C., Arnone, E., Bernardi, M., Farcomeni, A., Sangalli, L. M. (2023). Penalized quantile regression for spatially distributed data. (poster presentation) *Biennial conference of the Italian research group for Environmental Statistics (GRASPA 2023)*, Palermo, Italy, 10 – 11 July.

Castiglione, C., Bernardi, M. (2023). Approximate belief updating via semiparametric variational Bayes. (poster presentation) *Greek stochastics ν', Contemporary Bayesian Inference*, Naxos, Greece, 7 – 10 July.

Castiglione, C. (2022). Approximate belief updating via semiparametric variational Bayes. (poster presentation) *Statistical Methods and Models for Complex Data 2022*, Padova, Italy, 21 – 21 September.

Castiglione, C., Bernardi, M. (2022). Approximate general Bayesian inference via semiparametric variational Bayes. (invited presentation) *24th Conference on Computational Statistics (COMPSTAT 2022)*, Bologna, Italy, 23 – 26 August.

Castiglione, C., Bernardi, M. (2022). Probabilistic load forecasting via dynamic quantile regression. (poster presentation) *36th International Workshop on Statistical Modelling (IWSM 2022)*, Trieste, Italy, 18 – 22 July.

Castiglione, C., Bernardi, M. (2022). Approximate general Bayesian inference via semiparametric variational Bayes. (oral presentation) *2022 World Meeting of the International Society for Bayesian Analysis (ISBA 2022)*, Montreal, Canada, 26 June – 1 July.

Castiglione, C., Bernardi, M. (2022). Sparse signal extraction via Variational SVM. (oral presentation) *51th Scientific Meeting of the Italian Statisrtical Society (SIS 2022)*, Caserta, Italy, 22 – 24 June.

Castiglione, C. (2021). Approximate variational inference based on data augmentation methods. (oral presentation) *14th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2021)*, London, UK, 18 – 20 December.

Castiglione, C., Bernardi, M. (2021). Variational inference for non-crossing quantile regression. (poster presentation) *2021 World Meeting of the International Society for Bayesian Analysis (ISBA 2021)*, Online, 28 June – 02 July.

Castiglione, C., Bernardi, M. (2022). Semiparametric variational inference for Bayesian quantile regression. (oral presentation) *50th Scientific Meeting of the Italian Statisrtical Society (SIS 2021)*, Cagliari, Italy, 22 – 24 June.

Teaching experience

October 2024 – January 2025
Multivariate data analysis
Laboratory teacher, 14 hours
Department of Statistical Sciences, University of Padova
Instructor: Prof. Manuela Cattellan

February 2024 – July 2024
Statistical models 1
Laboratory teacher, 22 hours
Department of Statistical Sciences, University of Padova
Instructor: Prof. Guido Masarotto

October 2023 – January 2024
Multivariate data analysis
Laboratory teacher, 14 hours
Department of Statistical Sciences, University of Padova
Instructor: Prof. Manuela Cattellan

September 2017 – September 2018
Calculus 1 and Advanced Statistics
Academic tutor, 50 hours
Department of Statistical Sciences, University of Padova
Instructor: Prof. Annalisa Cesaroni; Prof. Alessandra R. Brazzale

References

Prof. Mauro Bernardi
University of Padova
Department of Statistical Sciences
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Prof. Alessio Farcomeni
University of Rome “Tor Vergata”
Deparment of Economics and Finance
Address: Via Columbia 2, Rome, Italy
Phone: +39 06 7259 5704
e-mail: alessio.farcomeni@uniroma2.it

Prof. Laura M. Sangalli
Politecnico di Milano
MOX, Department of Mathematics
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Cristian Castiglione