Viviana Carcaiso

CURRICULUM VITAE

Personal Details

Date of Birth: January 28, 1998
Place of Birth: Florence, Italy
Nationality: Italian

Contact Information

INRAE - BioSP
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Current Position

Since November 2024; (ending in November 2025)
**Post-doc, Unité BioSP–Biostatistique et Processus Spatiaux, INRAE,
Centre Provence–Alpes–Côte d'Azur.**
Project title: Extrapolation of extreme covariates in predictive models with application to climate-change projections. Funded by H2020 FIRE-RES.
Supervisor: Thomas Opitz
Co-supervisors: Sebastian Engelke, Juliette Legrand.

Research interests

- Extreme value theory
- Environmental data analysis
- Bayesian inference
- Machine learning for extreme values

Education

October 2021 – February 2025
PhD in Statistical Sciences.
University of Padova, Department of Statistical Sciences
Title of dissertation: "Bayesian mixture models for extremes"
Supervisor: Ilaria Prosdocimi
Co-supervisors: Isadora Antoniano-Villalobos, Miguel de Carvalho.

November 2019 – July 2021
Master degree in Statistics and Data Science.
University of Florence, School of Economics and Management
Title of dissertation: "The impact of remote teaching on university students' gained credits:
an analysis based on parametric modeling of quantile regression coefficient functions"

Supervisor: Leonardo Grilli
Final mark: 110/110 cum laude

September 2016 – November 2019
Bachelor degree in Statistics.
University of Florence, School of Economics and Management
Title of dissertation: "Un Sistema Informativo a supporto del CRR per le epilessie dell'AOU
Careggi" (*An information system to support the Regional Reference Center for Epilepsy at
Careggi University Hospital*)
Supervisor: Bruno Bertaccini
Final mark: 110/110 cum laude

Visiting periods

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16 – 21 July 2025
Université de Bretagne Occidentale, Brest, France.
Visiting Juliette Legrand.

13 – 16 May 2025
University of Geneva, Geneva, Switzerland.
Visiting Sebastian Engelke.

January 2024 – June 2024
University of Edinburgh, Edinburgh, UK.
Visiting Miguel de Carvalho.

Scholarships

October 2021
Ph.D. scholarship (3 years), University of Padova.
Academic year 2020/2021
DSU TOSCANA scholarship (1 year).
Academic year 2019/2020
DSU TOSCANA scholarship (1 year).
Academic year 2018/2019
DSU TOSCANA scholarship (1 year).
Academic year 2016/2017
DSU TOSCANA scholarship (1 year).

Computer skills

- Programming languages: R, Python, Fortran
- Markup languages: LaTeX
- Statistical analysis: RStudio, SAS, Stata
- Geographic Information System: QGIS
- LimeSurvey (Online Survey Tool)
- Microsoft Office environment

Language skills

Italian: native; English: fluent; French: basic.

Preprints

Carcaiso, V., de Carvalho, M., Prosdocimi, I., Antoniano-Villalobos, I. (2025). Bayesian mixture models for heterogeneous extremes. *arXiv:2509.15359*

Publications

de Carvalho, M., **Carcaiso, V.** & Dupuis, D. (2025, to appear). 'Learning about extreme value distributions from data', in de Carvalho, M., Huser, R., Naveau, P., and Reich, B. J. *Handbook on Statistics of Extremes*. Chapman & Hall/CRC. Boca Raton, FL.

Richards, J., Lee, M. W., **Carcaiso, V.** & de Carvalho, M. (2025). Jordan Richards, Myung Won Lee, Viviana Carcaiso, and Miguel de Carvalho's contribution to the Discussion of 'Inference for extreme spatial temperature events in a changing climate with application to Ireland' by Healy et al. *Journal of the Royal Statistical Society Series C: Applied Statistics*, 74(2), 307-309.

Carcaiso, V., Prosdocimi, I., Antoniano-Villalobos, I. (2023). Regression for mixture models for extremes. *Book of the Short Papers SIS 2023 - Statistical Learning, Sustainability and Impact Evaluation*, 629-634.

Carcaiso, V., Grilli, L. (2022). Quantile regression for count data: jittering versus regression coefficients modelling in the analysis of credits earned by university students after remote teaching. *Statistical Methods & Applications*, 1-22.

Carcaiso, V., Grilli, L. (2022). Quantile regression coefficient modeling for counts to evaluate the productivity of university students. *Book of short papers SIS 2022*, 1333-1338.

Carcaiso, V., Grilli, L. (2022). Analysis of count data by quantile regression coefficient modelling: student's gained credits after online teaching. *Proceedings of the 36th International Workshop on Statistical Modelling*, 113-116.

Conference presentations

Extrapolation of extreme covariates using extreme-value theory with an application to wildfire prediction. (contributed talk) *GRASPA 2025*, Rome, Italy, 15-17 September 2025.

Bayesian mixture models for heterogeneous extremes. (invited talk) *RISE final workshop*, Venezia Mestre, Italy, 12 September 2025.

Extrapolation of extreme covariates with an application to wildfire prediction. (invited talk) *14th International Conference on Extreme Value Analysis (EVA 2025)*, Chapel Hill, USA, 23-27 June 2025.

Infinite mixture models for heterogeneous environmental extremes. (invited talk) *2024 IMS International Conference on Statistics and Data Science (ICSDS)*, Nice, France, 16-19 December 2024.

Bayesian mixture models for heterogeneous extremes. (contributed talk) *6th International Conference on Advances in Extreme Value Analysis and Application to Natural Hazards (EVAN)*, Venice, Italy, 16-19 July 2024.

Bayesian mixture models for heterogeneous extremes. (poster presentation) *2024 ISBA World Meeting*, Venice, Italy, 1-7 July 2024.

Regression for mixture models for extremes. (poster presentation) *Centre for Statistics Annual Conference 2024*, Edinburgh, UK, 18 June 2024.

Regression for mixture models for extremes. (poster presentation) *Centre for Statistics Early Career Researchers Day 2024*, Edinburgh, UK, 17 June 2024.

Where do extremes come from? Dependent mixtures for block maxima. (invited talk) *16th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2023)*, Berlin, Germany, 16-18 December 2023.

Where do extremes come from? Dependent mixtures for block maxima. (contributed talk) *STOR-i Extremes Workshop (STEW)*, Lancaster, UK, 20-22 September 2023.

Regression for mixture models for extremes. (poster presentation) *Extreme Value Analysis (EVA) 2023*, Milan, Italy, 26-30 June 2023.

Regression for mixture models for extremes. (contributed talk and poster presentation) *SIS 2023 - Statistical Learning, Sustainability and Impact Evaluation*, Ancona, Italy, 21-23 June 2023.

Analysis of count data by quantile regression coefficient modelling: student's gained credits after online teaching. (contributed talk) *36th International Workshop on Statistical Modelling*, Trieste, Italy, 18-22 July 2023.

Other Interests

Baking
Running