Mengran **Li**

PhD Student in Statistics

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Summary

My research lies at the intersection of causal inference and extreme value theory, with a particular focus on applications to climate change.

Education

University of Glasgow — *Glasgow, UK*

Doctor of Philosophy in Statistics — *2022 - Present*

University of Glasgow — *Glasgow, UK*

Master of Science in Statistics with distinction — *2021 - 2022*

Thesis: Spatiotemporal modelling and prediction of average flows in Scotland based on generalized additive models

Southwestern University of Finance and Economics — *Chengdu, China*

Bachelor of Science in Statistics (Major) — *2015 - 2019*

Bachelor of Science in Finance (Minor)

Publications

1. **Li, M.**, Cuba, D., Hu, C., & Castro-Camilo, D. (2024). A wee exploration of techniques for risk assessments of extreme events. *Extremes*. doi:10.1007/s10687-024-00500-5
2. **Li, M.** & Castro-Camilo, D. (2025). On the importance of tail assumptions in climate extreme event attribution. *arXiv:2507.14019*.
3. **Li, M.** & Castro-Camilo, D. (2025+). Extreme quantile treatment effect. *In preparation*.
4. **eFCM: Exponential Factor Copula Model.** An R package for modeling spatial extreme values with flexible tail dependence structure. Includes likelihood-based inference, visualization tools, and bootstrap uncertainty quantification. *CRAN submission in 2025* cran.r-project.org/package=eFCM

Research Experience

Extreme Quantile Treatment Effect — *Glasgow, UK*

Developed a unified framework that transforms extreme quantile levels into tail quantile estimates under a causal inference setting, allowing for more precise inference of treatment effects in rare-event regimes. — *2023 - 2025*

EVA 2023 Data Challenge — *Glasgow, UK*

In collaboration with two other PhD students, we explored techniques for modeling extreme quantiles and multivariate extremes. This work was published in the Extremes journal. — *May 2023*

Extreme Event Attribution — *Glasgow, UK*

Applies causal inference methods for extreme event attribution to assess the impact of anthropogenic climate change on extreme weather. The work is in preparation for submission to the Annals of Applied Statistics. Also developed an R package (eFCM) with manuscript in preparation for R Journal. — *2022 - 2025*

Teaching Experience

University of Glasgow — *Glasgow, UK*

Tutor and Demonstrator

Math 1, Math 2F, Stats 2, Time Series, Data Analysis — *2022 - 2023*

Introduction to R Programming, Flexible Regression, Time Series, Data Analysis — *2023 - 2024*

R Programming, Introduction to Statistical Programming in R and Python, Flexible Regression, Bayesian Statistics, Time Series, Data Analysis — *2024 - 2025*

Conference Presentations

1. **ISI World Statistics Congress 2025**, 5–9 October 2025, International Statistical Institute, The Hague (Netherlands). *Talk presentation.*
2. **RSS 2025 International Conference**, 1–4 September 2025, Royal Statistical Society, Edinburgh (UK). *Poster presentation.*
3. **The 6th International Conference on Advances in Extreme Value Analysis and Application to Natural Hazards (EVA 2024)**, 16–19 July 2024, Istituto Veneto di Scienze, Venice (Italy). *Talk presentation.*
4. **STOR-i Extremes Workshop**, 20–22 September 2023, Lancaster University, Lancaster (UK). *Talk presentation.*
5. **Research Students' Conference in Probability and Statistics**, 11–14 September 2023, University of Sheffield, Sheffield (UK). *Talk presentation; Travel grant recipient.*

Awards and Recognitions

- **3rd Place, ISAC Data Analysis Competition, Travel grant awarded.** ISI World Statistics Congress, The Hague (Netherlands), July 2025.
- **PhD Scholarship**, CSC–University of Glasgow Joint Program, 2022–2026.
- **Academic Scholarships**, Southwestern University of Finance and Economics, Chengdu (China), 2015–2019.

Skills

Technical R, Python, C++, GitHub, Linux, MobaXterm, Conda

Document & Web LaTeX, R Markdown, HTML/CSS, Hugo, GitHub