Ryan Campbell

Department of Mathematics & Statistics
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Research Interests

Multivariate extreme value theory and its applications, dependence modeling, stochastic processes, estimation of quantiles, statistical computation.

Education

2021–2025*   PhD Statistics, Lancaster University

Thesis: Statistical Exploits of New Insights for Multivariate Extremes

Supervisor: Jennifer L. Wadsworth

Sept. – Dec. 2022: Visiting PhD researcher under the supervision of Daniel Cooley at Colorado State University.

2019–2020   MSc Mathematics & Statistics, McGill University

Thesis: Deterministic Gaussian Averaged Neural Networks

Supervisor: Adam Oberman

2015–2018   BSc Mathematics, McGill University

Papers

Preprints

[1] J. L. Wadsworth and **R. Campbell**. Statistical inference for multivariate extremes via a geometric approach, 2022. URL https://arxiv.org/abs/2208.14951

[2] **R. Campbell**, C. Finlay, and A. M. Oberman. Adversarial Boot Camp: label free certified robustness in one epoch, 2020. URL https://arxiv.org/abs/2010.02508

[3] **R. Campbell**, C. Finlay, and A. M. Oberman. Deterministic Gaussian averaged neural networks, 2020. URL https://arxiv.org/abs/2006.06061

Research & Professional Activities

- **Data Science Intern**
  Desjardins General Insurance Group. Lévis, Québec.
  June–December 2020 (part-time), January–June 2021 (full-time)

- **Undergraduate Summer Research**
  Department of Mathematics & Statistics, McGill University.
  Supervisor: Johanna Nešlehová
  May–September 2018

Teaching Assistant

Lancaster University

Winter 2022	MATH456/556	Extreme Value Theory
Winter 2022	MATH235	Statistics II
Fall 2021	MATH330	Likelihood Inference

McGill University

Fall 2020	MATH208	Intro. to Statistical Computing
Fall 2019	MATH597	Topics in Applied Mathematics: Mathematics of Machine Learning
Fall 2019	MATH223	Linear Algebra

Languages & Skills

- Fluent in English and French.
- Proficient in R, Python (incl. PyTorch), Matlab, LaTeX, Java, HTML, Linux

Honours, Awards, and Funding

2021–2025	EPSRC Mathematical Sciences studentship (£15,609 per year)
2020	Mitacs internship at Desjardins (CAD $13,000)
2019–2020	Master's degree funding (CAD $20,500)
2019–2020	McGill University Graduate Excellence Award (CAD $3,400)
2018	Dr. Kenneth Davis Science Undergraduate Research Award (CAD $6,500)

Extracurricular Activities

- **VP Finance**, Graduate Student Association for Mathematics and Statistics (GSAMS)
  McGill University
  2019–2020 academic year.

- **Volunteer at the 2018 Statistical Society of Canada annual meeting**
  Roles: Setting up audio-visual equipment for presentations and directing conference attendees to presentations.
  Location: McGill University
  3–6 June 2018