

Kelly Ramsay

465 Arnold Ave

Winnipeg

+1 (204) 880 6596

✉ kelly.ramsay@uwaterloo.ca

🌐 www.linkedin.com/in/kelly-ramsay-abc123

Education

- 2018-Present **PhD. Statistics**, *University of Waterloo*.
- 2016-2018 **MSc. Statistics**, *University of Manitoba*.
- 2012-2016 **BSc.(Hons.) Statistics & Actuarial Science**, *University of Manitoba*.

Publications

- 2021 **Change-point detection in the covariance kernel of functional data using data depth**, *Kelly Ramsay and Shoja'eddin Chenouri*, submitted to *Biometrika*.
- 2021 **Differentially private depth functions and their associated medians**, *Kelly Ramsay and Shoja'eddin Chenouri*, arXiv preprint arXiv:2101.02800, currently revising for re-submission.
- 2021 **Robust nonparametric hypothesis tests for differences in the covariance structure of functional data**, *Kelly Ramsay and Shoja'eddin Chenouri*, arXiv preprint arXiv:2106.10173, submitted to *JASA*.
- 2020 **Robust, multiple change-point detection for covariance matrices using data depth.**, *Kelly Ramsay and Shoja'eddin Chenouri*, arXiv preprint arXiv:2011.09558, submitted to *JMVA*.
- 2020 **Robustness and asymptotics of the projection median**, *Kelly Ramsay, Stephane Durocher and Alexandre Leblanc*, *Journal of Multivariate Analysis*, 10.1016/j.jmva.2020.104678.
- 2019 **Integrated rank-weighted depth**, *Kelly Ramsay, Stephane Durocher and Alexandre Leblanc*, *Journal of Multivariate Analysis*, 10.1016/j.jmva.2019.02.001.
- 2017 **Computable, Robust Multivariate Location Using Integrated Univariate Ranks**, *Kelly Ramsay*, *University of Manitoba*, Masters Thesis.

Awards and Honours

Major Awards

- 2019 **Canada Graduate Scholarship-Doctoral**, *NSERC*, \$35000, 4 years.
- 2021 **Sprott Scholarship**, *University of Waterloo*, \$1000, 1 year.
- 2016 **Canada Graduate Scholarship-Masters**, *NSERC*, \$17500, 1 year.

- 2017 **SSC Student Presentation Award**, SSC, \$500.
- 2019 **Outstanding Research by an M.Sc. Student**, *University of Manitoba*, \$500.
- Minor Awards
- 2019-2021 **President's Graduate Scholarship**, *University of Waterloo*, \$10000.
- 2019-2021 **Math Domestic Doctoral Scholarship**, *University of Waterloo*, \$5000.
- 2020 **Math Senate Graduate Scholarship**, *University of Waterloo*, \$2000.
- 2019,2021 **Stats & Act Sci Chairs Award**, *University of Waterloo*, \$1000.
- 2019 **UW Grad Scholarship**, *University of Waterloo*, \$1000.
- 2019 **Math Domestic Graduate Award**, *University of Waterloo*, \$4000.
- 2019 **Prov-Doc Entrance Award for Women**, *University of Waterloo*, \$5000.
- 2019 **Stats & Act Sci Doctoral Entrance Award**, *University of Waterloo*, \$5000.
- 2017 **University of Manitoba TMSA**, *University of Manitoba*, \$17500.
- 2014 **Undergraduate Research Award**, *University of Manitoba*, \$6000.
- 2016 **Dr Gordon H Josie Memorial Scholarship**, *University of Manitoba*, \$500.
- 2015-2016 **Great West Life Actuarial Career Scholarship**, *University of Manitoba*, \$5000, 2 years.
- 2012-2016 **President's Scholarship**, *University of Manitoba*, \$1000, 4 years.
- 2012-2016 **UMSU Scholarship**, *University of Manitoba*, \$750, 3 years.
- 2012 **Advanced Early Admission Scholarship**, *University of Manitoba*, \$2000.
- 2012 **Advanced Placement and International Baccalaureate Scholarship Enhancement**, *University of Manitoba*, \$250.

Conferences

- 2021 **Presentation: Privatizing Data Depth Functions**, *Kelly Ramsay and Shoja'eddin Chenouri*, SSC 2021.
- 2019 **Presentation: Multivariate Change-point Detection: A Nonparametric Method for Multiple Change-point Detection in the Covariance Matrix of a Time Series**, *Kelly Ramsay and Shoja'eddin Chenouri*, WSAS 2019.
- 2018 **Presentation: Some Results on the Projection Median**, *Kelly Ramsay, Stephane Durocher and Alexandre Leblanc*, SSC 2018.

- 2017 **Presentation: Computing the Projection Median in R^3** , *Kelly Ramsay, Stephane Durocher and Alexandre Leblanc, SSC 2017.*
- 2017 **Case Study Poster: Classifying IBS Patients**, *Kelly Ramsay, Shamsia Sobhan, Inesh Prabuddha, and Kanika Grover, SSC 2017.*

Teaching Experience

- 2018-Present **Teaching Assistant**, *University of Waterloo.*
Courses: Statistics, Probability, Mathematical Statistics, Forecasting, Computational Inference.
- 2018 **Sessional Instructor**, *University of Manitoba.*
Courses: Probability.
- 2017-2018 **Teaching Assistant**, *University of Manitoba.*
Courses: Inference 1 and 2, Introduction to Statistics and Computing, Statistics and Computing, Computational Statistics.

Additional Research Experience

- 2020-Present **Technical Analyst**, *Bison Transport.*
Projects: Build outlier detection tools, time series analysis
- 2019-Present **Statistical Consultant**, *University of Waterloo.*
Projects: Build a large scale web-scrapers, give statistical advice to graduate students
- 2014 **Research Assistant**, *University of Manitoba.*
Projects: Evaluate Bernstein polynomial density estimation procedures

Service

- 2019-Present **Reviewer.**
Journals: Statistics and Probability letters, PLOS ONE
- 2021 **First Waterloo Student Conference in Statistics, Actuarial Science and Finance**, *Co-chair.*
- 2019 **Second Waterloo Student Conference in Statistics, Actuarial Science and Finance**, *Co-chair.*
- 2017 **Statistical Society of Canada Conference**, *Volunteer.*
- 2017-Present **Statistical Society of Canada**, *Member.*
- 2017 **Graduate Student Association**, *Council Member.*

Research interests

Functional data, Data privacy, Nonparametric statistics, Robust statistics, Time series, Hypothesis testing, Change-point detection, Shape and manifold valued data, Computational geometry