CHI ZHANG

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HIGHLIGHT OF QUALIFICATIONS

- Ph.D. in statistics with extensive experience in statistical modeling, model diagnostics, data visualization, and computational methods applied to complex biomedical and real-world datasets.
- Detail-oriented, collaborative problem-solver with strong communication skills and experience translating complex statistical analyses for cross-functional teams.

RESEARCH EXPERIENCE

Statistical Analysis of Complex Random Objects University of Waterloo

Supervised by Dr. Peijun Sang & Dr. Yingli Qin

- Developed statistical methodologies for analyzing complex biomedical data, with a focus on longitudinal and neuroimaging datasets.
- Designed a projection-based algorithm to extract shared latent structures across multiple data sources, enabling integrative modeling of multi-site and heterogeneous datasets.
- Proposed a dimension reduction tool to identify the dominant modes of variation in functional data, improving the efficiency and performance of downstream statistical analyses.
- Established an inference procedure and computational framework for detecting mean differences, with applications to treatment effect assessment in longitudinal health data with repeated measurements.

Detecting Structure Breaks for Functional Time Series University of Waterloo

Supervised by Dr. Gregory Rice

- Developed a computationally efficient algorithm for sequential identification of change-points in functional time series, potentially applicable for monitoring and detecting changes in health outcomes over time.
- Demonstrated the robustness and accuracy of the proposed method across various data-generating mechanisms and evaluation metrics, showcasing its adaptability to real-world clinical data scenarios.

WORK EXPERIENCE

Data Scientist, Just Energy Jan 2021 – Aug 2021

- Optimized a long-term forecasting model for electricity consumption, increasing computational efficiency by 30%.
- Engineered an automated reporting system to improve transparency and traceability of model predictions across reporting cycles, supporting timely, data-driven decision making.
- Collaborated with cross-functional teams by translating complex statistical models into accessible insights for non-statistical members.

PREPRINTS AND PUBLICATIONS

- Rice, G. and **Zhang, C**. (2022) Consistency of binary segmentation for multiple change-point estimation with functional data, *Statistics & Probability Letters*, 180, 109228 (PDF).
- **Zhang, C.**, Sang, P. and Qin, Y. (2025) Two-sample inference for sparse functional data, *Electronic Journal of Statistics* 19(1), 792-864 (PDF).
- **Zhang, C.**, Sang, P. and Qin, Y. Order determination for functional data, *Under review* (arXiv).
- **Zhang, C.**, Sang, P. and Qin, Y. Learning Shared and Source-specific Subspaces across Multiple Data Sources for Functional Data, *Under review* (arXiv).

HONOURS AND REWARDS

Natural Sciences and Engineering Research Council **(NSERC)** - 40,000 CAD/year	May 2024 - April 2027
Ontario Graduate Scholarship **(OGS)** - 15,000 CAD/year	May 2023 - April 2024
President's Graduate Scholarship - 5,000 CAD/year	May 2023 - April 2025

EDUCATION

Ph.D. in Statistics, University of Waterloo	Sept 2021 - Dec 2025
M.Math. in Statistics, University of Waterloo	Sept 2018 - Dec 2019
B.Sc. in Statistics, York University	Sept 2015 - Apr 2018

TECHNICAL SKILLS

Programming Languages:	R, Python, SQL, Matlab.
Software & Tools:	Git, LaTeX, MS Office(Word, Excel, PowerPoint).