

# Yangdi Jiang | CURRICULUM VITAE

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## Education

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| <b>University of Alberta</b>     | Alberta, Canada |
| PHD STATISTICAL MACHINE LEARNING | 2021 - present  |
| • Advisor: Prof. Bei Jiang       |                 |
| <b>University of Alberta</b>     | Alberta, Canada |
| MS STATISTICAL MACHINE LEARNING  | 2019 - 2021     |
| • Advisor: Prof. Bei Jiang       |                 |
| <b>University of Alberta</b>     | Alberta, Canada |
| BS MATHEMATICS AND FINANCE       | 2013 - 2017     |
| • Graduation with Distinction    |                 |

## Professional Experience

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| 2019-present | <b>Graduate Teaching Assistant</b> , Dept. of Mathematical and Statistical Sciences, University of Alberta |
| 2024-present | <b>Statistical Consultant</b> , Training Consultant Center, University of Alberta                          |
| 2020-2021    | <b>Intern Statistician</b> , Replica Analytics   |

## Publications

### Published

- Yinlong Huang, **Yangdi Jiang**, Bei Jiang, Ryan T. Bailey, Badrul Masud, Brian Smerdon and Monireh Faramarzi. Modelling impacts of climate change on snow drought, groundwater drought, and their feedback mechanism in a snow dominated watershed in western Canada. *Journal of Hydrology*, 2024.
- Yangdi Jiang**, Yi Liu, Xiaodong Yan, Anne-Sophie Charest, Linglong Kong, and Bei Jiang. Analysis of differentially private synthetic data: a general measurement error approach. *Thirty-Eighth AAAI Conference on Artificial Intelligence (AAAI)*. 10 2023.
- Yangdi, Jiang**, Xiaotian Chang, Yi Liu, Lei Ding, Linglong Kong, and Bei Jiang. Gaussian differential privacy on Riemannian manifolds. In *Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS)*, 2023.
- Yangdi Jiang**, Lucy Mosquera, Bei Jiang, Linglong Kong, and Khaled El Emam. Measuring re-identification risk using a synthetic estimator to enable data sharing. *PLOS ONE*, 17(6):1-19, 06 2022.

### Under Review

- Yangdi Jiang**, Xiaotian Chang, Lei Ding, Linglong Kong, and Bei Jiang. Exponential Wrapped Mechanism: A General and Computationally Efficient Approach to Differential Privacy on Hadamard Manifolds. *The Forty-Second International Conference on Machine Learning (ICML)*, 2025.
- Peng Yu<sup>†</sup>, **Yangdi Jiang**<sup>†</sup>, Zhihua Su, Jiamei Wu, Lingchen Kong, and Bei Jiang. A Bayesian Approach to Data-driven Regression with Differential Privacy Guarantee. *Journal of Data Science*, 2025.

## In Prep

**Yangdi Jiang**<sup>†</sup>, Xiaotian Chang<sup>†</sup> and Qirui Hu. Statistical Inference of Riemannian Manifolds Data under Differentially Private Framework.

**Yangdi Jiang**, Xiaotian Chang, Linglong Kong, and Bei Jiang. Bayesian Deconvolution on Riemannian Manifolds with Applications to Differential Privacy.

**Yangdi Jiang**, Xiaotian Chang and Qirui Hu. Statistical Analysis of Fréchet Mean under Local Differential Privacy.

Bei Jiang, Junxi Zhang, **Yangdi Jiang** and Linglong Kong. FDA: generating fair synthetic data with provable trade-off between fairness and faithfulness.

## Patent

**Yangdi Jiang**, Bei Jiang, Linglong Kong and Khalid El Emam. Re-identification Risk Assessment Using a Synthetic Estimator. 2022. US Patent App. 17/400,484.

<sup>†</sup> indicates equal contribution.

## Computing & Software Experience

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**Programming Languages:** R and Python

**Statistical Computing:** High-performance computing (HPC), parallel processing in R and Python

**Cloud & Linux Computing:** Experience running large-scale statistical models on Linux-based Slurm clusters

## Awards, Fellowships, & Grants

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2024 **Alberta Innovates Graduate Student Scholarships**, Alberta Innovates

2021 **Dr. Josephine M. Mitchell Research Scholarship**, University of Alberta

2017 **A Thorleif M Fostvedt Scholarship in Mathematics**, University of Alberta

**The John Ross McGregor Scholarship in Mathematical and Statistical Science**, University of Alberta

2016 **A Thorleif M Fostvedt Scholarship in Mathematics**, University of Alberta

2015 **A Thorleif M Fostvedt Scholarship in Mathematics**, University of Alberta

## Teaching Experience

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Winter 2025 **STAT 151: Introduction to Applied Statistics I**, Lab Instructor

Fall 2024 **STAT 161: Introductory Statistics for Business and Economics**, Lab Instructor

Winter 2024 **STAT 151: Introduction to Applied Statistics I**, Lab Instructor

Fall 2023 **STAT 471: Probability I**, Teaching Assistant

Winter 2023 **STAT 361: Sampling Techniques**, Teaching Assistant

Fall 2022 **STAT 235: Introductory Statistics for Engineering**, Lab Instructor

Winter 2022 **STAT 235: Introductory Statistics for Engineering**, Lab Instructor

Fall 2021 **STAT 235: Introductory Statistics for Engineering**, Lab Instructor

Fall 2020 **STAT 368: Introduction to Design and Analysis of Experiments**, Teaching Assistant