**Qiong Zhang** *Updated*: October 2023

CONTACT INFORMATION

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RESEARCH INTERESTS

Distributed and federated learning, Mixture model, Optimal transport

EDUCATION AND ACADEMIC POSITIONS

RENMIN UNIVERSITY OF CHINA 09/2022 – present
*Beijing, China*
**Tenure Track Assistant Professor**
Institute of Statistics and Big Data

UNIVERSITY OF BRITISH COLUMBIA 09/2017 – 05/2022
*Vancouver, British Columbia, Canada*
**Ph.D. in Statistics.** GPA: 4.0/4.0
Supervisor: Professor Jiahua Chen
Thesis: Inference under Finite Mixture Models : Distributed Learning and Approximate Inference

UNIVERSITY OF BRITISH COLUMBIA 09/2015 – 09/2017
*Vancouver, British Columbia, Canada*
**M.Sc. in Statistics.** GPA: 4.0/4.0
Supervisor: Professor Jiahua Chen
Thesis: Small Area Quantile Estimation under Unit-Level Models

UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA 09/2011 – 06/2015
*Hefei, Anhui, China*
**B.Sc. in Statistics, School of the Gifted Young.** GPA: 3.66/4.3

PUBLICATIONS

* denotes equal author contribution (shared first authorship in alphabetical order).

- **Qiong Zhang**, Archer Gong Zhang, and Jiahua Chen. "Gaussian mixture reduction with composite transportation divergence." Accepted by *IEEE Transactions on Information Theory*. Available at arXiv:2002.08410.
- **Qiong Zhang** and Jiahua Chen. "Distributed learning of finite Gaussian mixtures." *Journal of Machine Learning Research* 23(1), 4265-4304, 2022.
- **Qiong Zhang** and Jiahua Chen. "Minimum Wasserstein distance estimator under finite Location-scale mixtures." In *Advances and Innovations in Statistics and Data Science*, pp. 69-98. Springer, Cham, 2022.
- **Qiong Zhang** and Jihua Chen. "Robustness of Gaussian mixture reduction for split-and-conquer learning of finite Gaussian mixtures." 3rd *International Conference on Statistics: Theory and Applications* (ICSTA), 2021.
- Hanwen Liang*, **Qiong Zhang***, Peng Dai, and Juwei Lu. "Boosting the generalization capability in cross-domain few-shot learning via noise-enhanced supervised autoencoder." *International Conference on Computer Vision* (ICCV), 2021 (25.9% acceptance).
- Xin Ding*, **Qiong Zhang***, and William J Welch. "Classification beats regression: counting of cells from greyscale microscopic images based on annotation-free training samples." *CAAI International Conference on Artificial Intelligence*, 2021 (34.5% acceptance).

- Zhanshou Chen, Jiahua Chen, and **Qiong Zhang**. "Small area quantile estimation via spline regression and empirical likelihood." *Survey Methodology* 45(1), 81-99, 2019.
- Philippe Phan, Brandon Budhram, **Qiong Zhang**, Carly S. Rivers, Vanessa K. Noonan, Tova Plashkes, Eugene K. Wai, Jérôme Paquet, Darren M. Roffey, Eve Tsai, and Nader Fallah. "Highlighting discrepancies in walking prediction accuracy for patients with traumatic spinal cord injury: an evaluation of validated prediction models using a Canadian multicenter spinal cord injury registry." *The Spine Journal*, 19(4), 703-710, 2019.
- Bo Chang*, **Qiong Zhang***, Shenyi Pan, and Lili Meng. "Generating handwritten Chinese characters using CycleGAN." In 2018 IEEE *Winter Conference on Applications of Computer Vision* (WACV), pp. 199-207. IEEE, 2018 (45.9% acceptance).

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## Teaching Experience

### Course Instruction, Renmin University of China

*PhD level courses*

- Bayesian modeling and inference — 02/2023 – 06/2023
- Special topics in big data — 02/2023 – 06/2023
- Advanced statistical computing — 09/2022 – 12/2022, 09/2023 – 12/2023

### Teaching Assistant, University of British Columbia

*Held weekly labs and office hours, created and marked assignments and exams*

- STAT 201: Statistical inference for data science — 01/2022 – 04/2022
- STAT 404: Design and analysis of experiments — 09/2021 – 12/2021
- STAT 305: Introduction to statistical inference — 07/2021 – 08/2021
- STAT 251: Elementary statistics — 05/2021 – 06/2021
- STAT 300: Intermediate statistics for applications — 01/2021 – 04/2021
- STAT 344: Sample surveys — 09/2020 – 12/2020
- STAT 302: Introduction to probability — 09/2019 – 04/2020
- STAT 461/561: Statistical theory II — 01/2019 – 04/2019
- STAT 306: Finding relationships in data — 09/2018 – 12/2018
- STAT 200: Elementary statistics for applications — 09/2015 – 04/2018

### Teaching Assistant, University of Science and Technology of China

*Held weekly TA office hours, marked assignments and exams*

- Linear algebra (B1) — 02/2015 – 06/2015
- Linear algebra (B2) — 09/2014 – 01/2015

### Other

- Trainer for teaching assistant program (@ UBC Statistics) — 09/2019 – 09/2021
- Instructional skills workshops — 11/2019

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## Honors and Awards

- Honorable mentions for the presentation award of 2nd Waterloo student conference in statistics, actuarial science and finance 2021
- Winner of statistical society of Canada annual meeting case study 1 2019
- Margaret Wylie memorial scholarship in statistics 2017
- International doctoral fellowship 2017 – 2021
- Faculty of science graduate award 2017 – 2021
- CANSSI scholarship 2016
- UBC international tuition award 2015 – 2021
- USTC outstanding undergraduate scholarship 2013/2014
- USTC outstanding freshman scholarship 2011

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## Talks & Presentations

### Poster Presentation

- NeurIPS 2022 journal to conference track:
  Distributed learning of finite Gaussian mixtures. 11/2022
- Canadian statistical sciences institute showcase:
  Distributed learning of finite Gaussian mixtures. 11/2021
- Statistical society of Canada:
  Classification beats regression in cell counting from microscopic images. 06/2019
- Joint statistical meeting data expo:
  Do I really need a jacket? 08/2018
- Winter Conference on Applications of Computer Vision:
  Generating handwritten Chinese characters using CycleGAN. 03/2018

### Invited Talks

- Gaussian mixture reduction with composite transportation divergence.
  - Xiamen University 12/2022
  - East China Normal University 08/2023
- Distributed learning of finite Gaussian mixtures.
  - Shanghai Jiao Tong University 11/2022
  - University of Science and Technology of China 05/2023

### Talks

- Renmin University of China:
  FedMT: federated learning with mixed-type labels. 10/2022
- 2nd Waterloo student conference of statistics, actuarial science and finance:
  Distributed learning of finite Gaussian mixtures. 11/2021
- Joint statistical meeting:
  Distributed learning of finite Gaussian mixtures. 08/2021
- 3rd international conference on statistics: theory and applications:
  Robustness of Gaussian mixture reduction for split-and-conquer learning of finite Gaussian mixtures. 07/2021
- UBC/SFU joint student seminar:
  Distributed learning of finite Gaussian mixtures. 03/2021
- UBC/SFU joint student seminar:
  Generating handwritten Chinese characters using CycleGAN. 03/2018

- Statistics Canada:
  Estimation of small area means and quantiles using EBLUP, Pseudo-EBLUP and M-quantile approaches. 08/2016

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## Professional Experience & Activities

### Reviewer

- IEEE Transactions on Neural Networks and Learning Systems 2023 – present
- Journal of Machine Learning Research 2021 – present
- International Conference on Machine Learning (ICML) 2023 – present
- International Conference on Learning Representations (ICLR) 2021 – present
- Neural Information Processing Systems (NeurIPS) 2019 – present

### Organizer & Conference Volunteer

- Constance van Eeden lecture organizer 2019 – 2020
- UBC/SFU joint student seminar organizer 2017 – 2019
- 2018 JSM-ICSA volunteer 08/2018
- ICSA-Canada chapter 2017 symposium volunteer 08/2017

### Internship

- Huawei Noah's Ark Lab, Markham, ON 05/2020 – 09/2020
  *Computer Vision Team*
- Rick Hansen Institute, Vancouver, BC 05/2017 – 08/2017
- Statistics Canada, Ottawa, ON 06/2016 – 08/2016
  *International Cooperation and Corporate Statistical Methods Division*

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## Hardware and Software Skills

Programming: Proficient with R, Python; some experience with C, Matlab, SAS
Deep Learning API: Pytorch
Office & Publishing: Microsoft office, LaTeX