Qiong Zhang *Updated*: November 2022

CONTACT INFORMATION

Institute of Statistics and Big Data
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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
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

PREPRINTS

- **Qiong Zhang**, Archer Gong Zhang, and Jiahua Chen. "Gaussian mixture reduction with composite transportation divergence." Available at arXiv:2002.08410.
- **Qiong Zhang**, Aline Talhouk, Gang Niu, and Xiaoxiao Li. "FedMT: Federated learning with mixed-type labels." Available at arXiv:2210.02042.

REFEREED PAPERS

* denotes equal author contribution (shared first-authorship).

- **Qiong Zhang** and Jiahua Chen. "Distributed learning of finite Gaussian mixtures." *Journal of Machine Learning Research* 23(99), 1-40, 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.
- **Qiong Zhang***, Hanwen Liang*, 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).

- **Qiong Zhang***, Xin Ding*, 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.
- **Qiong Zhang***, Bo Chang*, 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).

Teaching Experience

Course Instruction, Renmin University of China

- Advanced statistical computing 09/2022 – 12/2022

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 Stat) 09/2019 – 09/2021
- Instructional skills workshops 11/2019

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

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

Talks

- 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

Professional Experience & Activities

Reviewer

- Journal of Machine Learning Research — 2021 – 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