Qiong Zhang

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Github: www.github.com/SarahQiong/ Homepage: https://sarahqiong.github.io/

Research Interests Distributed Learning, Mixture Model, Optimal Transportation, Applications of Deep Learning

EDUCATION

University of British Columbia Vancouver, British Columbia, Canada

Ph.D. (Statistics)

Supervisor: Professor Jiahua Chen

Cumulative GPA: 4.0/4.0

University of British Columbia Vancouver, British Columbia, Canada

M.Sc. (Statistics)

Supervisor: Professor Jiahua Chen

Thesis Title: Small Area Quantile Estimation under Unit-Level Models

Cumulative GPA: 4.0/4.0

University of Science and Technology of China

Hefei, Anhui, China

B.Sc. (Statistics), School of the Gifted Young

Cumulative GPA: 3.66/4.3

09/2011 - 06/2015

09/2015 - 09/2017

09/2017 - present

Publications

Preprints

- Qiong Zhang and Jiahua Chen. "Distributed Learning of Finite Gaussian Mixtures." Available at arXiv:2010.10412. Revised and resubmitted to Journal of Machine Learning Research.
- Qiong Zhang, Archer Gong Zhang, and Jiahua Chen. "Gaussian Mixture Reduction with Composite Transportation Divergence." Available at arXiv:2002.08410.

Refereed Papers

- Qiong Zhang and Jiahua Chen. "Minimum Wasserstein Distance Estimator under Finite Location-scale Mixtures." Springer. In Press. Advances and Innovations in Statistics and Data Science. Editors: W. He, L. Wang, J. Chen and D. C. Lin.
- 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 45, no. 1 (2019): 81-99.

- Philippe Phan, Brandon Budhram, Qiong Zhang, Carly S. Rivers, Vanessa K. Noonan, Tova Plashkes, Eugene K. Wai et al. "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, no. 4 (2019): 703-710.
- 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).

Talks & Presentations

Poster Presentation

- 2021 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.
- 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.

Honors and Awards

• Honorable mentions for the presentation award of 2nd Waterloo Student Conference in Statistics, Actuarial Science and Finance

2021

2019

2017

2016

2011

2015 - 2021

- Winner of Statistical Society of Canada Annual Meeting Case Study 1
- Margaret Wylie Memorial Scholarship in Statistics
- International Doctoral Fellowship 2017 2021
- Faculty of Science Graduate Award 2017 2021
- CANSSI scholarship
- UBC International Tuition Award
- USTC Outstanding Undergraduate Scholarship 2013/2014
- USTC Outstanding Freshman Scholarship

^{*} Equal contribution.

| Teaching |
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| EXPERIENCE |

Teaching Assistant, University of British Columbia Held weekly labs and office hours, created and marked assignments and exams

| • 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 Department) | 09/2019 - 09/2021 |
|--|-------------------|
| • Instructional Skills Workshops | 11/2019 |

Professional Experience & Activities

Reviewer

| • Journal of Machine Learning Research | 2021 - present |
|---|----------------|
| • International Conference on Learning Representations (ICLR) | 2021 |
| • Neural Information Processing Systems (NeurlPS) | 2019 |

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 |
|------------------------------------|-------------------|
| Research Intern | |

Computer Vision Team Supervisor: Dr. Juwei Lu

Project Title: Cross Domain Few Shot Learning

RICK HANSEN INSTITUTE, VANCOUVER, BC 05/2017 - 08/2017

Research Intern

Supervisor: Dr. Nader Fallah

Project Title: Prediction for Prognosticating Independent Walking after Spinal Cord Injury

Research Intern

International Cooperation and Corporate Statistical Methods Division

Supervisor: Dr. Yong You

Project Title: Estimation of Small Area Means and Quantiles using EBLUP, Pseudo-EBLUP

and M-quantile Approaches

HARDWARE AND SOFTWARE SKILLS Programming: Proficient with R, Python; some experience with C, Matlab, SAS

Deep Learning API: Pytorch, Tensorflow Office & Publishing: Microsoft Office, \LaTeX