Dr. Zhuo-Song Zhang

BASIC INFORMATION

- Department of Statistics and Applied Probability
- National University of Singapore
- Email: zszhangstat@gmail.com
- Homepage: https://zhuosongz.github.io

EDUCATION

The Chinese University of Hong Kong, Hong Kong

- Ph.D. in Statistics
  - Supervisor: Prof. Qi-Man Shao. Aug 2013 – Jul 2017

Wuhan University, China

- B.S. in Statistics. Sep 2009 – Jun 2013

RESEARCH EXPERIENCE

Stanford University, Statistics Department

- Visiting Student Researcher
  - Adviser: Prof. Sourav Chatterjee. Jul 2016 – Aug 2016

Melbourne University, School of Mathematics and Statistics

- Research Fellow in statistics
  - Adviser: Prof. Aurore Delaigle. Aug 2017 – Jun 2019

National University of Singapore, Department of Statistics and Applied Probability

- Research Fellow
  - Adviser: Prof. Adrian Roellin. Jul 2019 – present

RESEARCH INTERESTS

Asymptotic theory in probability and statistics; Stein's method; Functional data analysis; Nonparametric statistics; Random Graph theory.

PUBLICATIONS

[1] Q.-M. Shao and Z.-S. Zhang. (2016). "Identifying the limiting distribution by a general approach of Stein's method", *Sci. China Math.*, vol. 59, 2379–2392.

[2] Q.-M. Shao and Z.-S. Zhang. (2019). "Berry–Esseen bounds of normal and non-normal approximation for unbounded exchangeable pairs", *Ann. Probab.*, vol. 47, 61–108.

[3] Q.-M. Shao, M.-C. Zhang and Z.-S. Zhang. (2021), "Cramér-type moderate deviations for non-normal approximation". *Ann. Appl. Probab.* Vol. 31, 247–283.

[4] Q.-M. Shao and Z.-S. Zhang (2020), "Berry–Esseen bounds for multivariate nonlinear statistics with applications to M-estimators and stochastic gradient descent algorithms". To appear in Bernoulli.

SUBMITTED PAPERS

[1] Z.-S. Zhang, "Cramér-type moderate deviations of normal approximation for exchangeable pairs". Available at ArXiv: 1901.09526.

[2] Z.-S. Zhang, "Berry–Esseen bounds for generalized U-statistics". Submitted.

[3] Z.-S. Zhang, "Berry–Esseen bounds for self-normalized sums of local dependent random variables". Submitted.

WORKING PAPERS

[1] A. Roellin and Z.-S. Zhang, "Weak limit theorems for multigraphon-valued stochastic processes with applications to configuration models".

[2] A. Delaigle, D. Dutta and Z.-S. Zhang, "Reconstructing fragmented functional data by Markov chains".

[3] A. Delaigle and Z.-S. Zhang, "Reconstructing functional data by nonparametric methods".

[4] S. Liu and Z.-S. Zhang, "Cramér-type moderate deviation under Stein's identities with applications to local dependence and combinatorial central limit theorems".

INVITED PRESENTATIONS

[1] *62nd ISI World Statistics Congress 2019*, Kuala Lumpur, Malaysia. Aug 2019.

[2] *Stein's Method and Related Topics*, Macau, China, Dec 2018.

[3] *The 5th Institute of Mathematical Statistics Asia Pacific Rim Meeting*, The National University of Singapore, Singapore, Jun 2018.

[4] *2017 IMS-China International Conference on Statistics and Probability*, Guangxi University For Nationalities, Nanning, China, Jun 2017

[5] *The 10th ICSA international conference*, Shanghai Jiao Tong University, Shanghai, China, Dec 2016.

[6] *The International Symposium on Probability Theory and Related Fields*, Southern University of Science and Technology, Shenzhen, China, Nov 2016.

[7] *The 4th Institute of Mathematical Statistics Asia Pacific Rim Meeting*, The Chinese University of Hong Kong, HK, Jun 2016.

AWARDS & SCHOLARSHIPS

- Overseas Research Award, 2015–2016
  Department of Statistics, The Chinese University of Hong Kong
- Nominee of Global Young Scientists Summit 2015, 2014–2015
  Science Faculty, The Chinese University of Hong Kong
- Wuhan University Outstanding Graduate student, 2013
- National motivational scholarships, 2011
- Wuhan University Outstanding students scholarship, 2011
- Wuhan University Excellent student, 2011

PROFESSIONAL SERVICES

REVIEWERS

Journals: Bernoulli, Probability in the Engineering and Informational Sciences

SUPERVISION EXPERIENCE

PHD STUDENTS

Mr. Debajit Dutta, PhD student
Co-supervisor of his thesis work on "fragmented functional data".

TEACHING

- Fall 2018, MAST90123, Advanced Mathematical Statistics, University of Melbourne

TEACHING ASSISTANT

- Fall 2013, STAT 2001 A/B, Basic Concepts in Probability and Statistics I
- Spring 2014, STAT 2006 A/B, Basic Concepts in Probability and Statistics II
- Fall 2014, STAT 5005, Advanced Probability Theory
- Spring 2015, STAT 4003, Statistical Inference
- Fall 2015, STAT 5005, Advanced Probability Theory
- Fall 2015, RMSC 5001, Advanced Statistical Theory in Risk Management
- Spring 2016, RMSC 4001, Simulation Methods for Risk Management Science and Finance
- Fall 2016, STAT 3210, Statistical Techniques in Life Sciences