

JIAXIN QIU (邱佳鑫)

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📁 EMPLOYMENT

Postdoctoral Fellow

Nov. 2024 – Oct. 2027

Department of Mathematics, The University of Hong Kong

Mentor: Prof. [Zhigang Bao](#)

Research Associate

Sep. 2024 – Oct. 2024

School of Data Science, Chinese University of Hong Kong, Shenzhen

Mentor: Prof. [Jianfeng \(Jeff\) Yao](#)

🎓 EDUCATION

The University of Hong Kong

📍 Hong Kong, China

PhD in Statistics

Sep. 2020 – Aug. 2024

Supervisors: Prof. [Jianfeng \(Jeff\) Yao](#) (CUHK-SZ) & Prof. [Zeng Li](#) (SUSTech)

Harbin Institute of Technology

📍 Harbin, China

M.Sc. in Statistics

Sep. 2018 – Jun. 2020

Supervisor: Prof. [Guo-Liang Tian](#)

Southern University of Science and Technology

📍 Shenzhen, China

B.Sc. in Mathematics

Sep. 2014 – Jun. 2018

🔍 RESEARCH INTERESTS

- Random Matrix Theory
- High-dimensional Statistics

📖 PUBLICATIONS/MANUSCRIPTS

Publications & Preprints

[*: corresponding author, †: equal contribution, α - β : alphabetical order]

1. **Jiaxin Qiu**, Zeng Li*, Jianfeng Yao (2023). Asymptotic normality for eigenvalue statistics of a general sample covariance matrix when $p/n \rightarrow \infty$ and applications. **The Annals of Statistics**, 51(3): 1427-1451. DOI: [10.1214/23-AOS2300](https://doi.org/10.1214/23-AOS2300)
2. Zhanting Long, Zeng Li*, Ruitao Lin, **Jiaxin Qiu** (2023). On singular values of large dimensional lag- τ sample auto-correlation matrices. **Journal of Multivariate Analysis**, 197. DOI: [10.1016/j.jmva.2023.105205](https://doi.org/10.1016/j.jmva.2023.105205)
3. **Jiaxin Qiu**, Zeng Li*, Jianfeng Yao (2024). Robust estimation for number of factors in high dimensional factor modeling via Spearman correlation matrix. **Journal of the American Statistical Association**, 120:550, 1139-1151. DOI: [10.1080/01621459.2024.2402565](https://doi.org/10.1080/01621459.2024.2402565).
4. Qianqian Jiang†, **Jiaxin Qiu**†, Zeng Li* (2023). On eigenvalues of sample covariance matrices based on high-dimensional compositional data. *Submitted* (Major Revision at **Electronic Journal of Statistics**). [arXiv:2312.14420](https://arxiv.org/abs/2312.14420).
5. (α - β) Zhigang Bao*, Kha Man Cheong, Yuji Li, **Jiaxin Qiu** (2026). Online change point detection for high dimensional covariance matrix. *Submitted*. [arXiv:2601.22602](https://arxiv.org/abs/2601.22602).
6. (α - β) Zhigang Bao, Kha Man Cheong, Yuji Li, **Jiaxin Qiu*** (2026). Spike estimation from heteroscedastic noise via random splitting. *Submitted*. [arXiv:2609.11169](https://arxiv.org/abs/2609.11169).

Working Papers

1. **Jiaxin Qiu**, Zeng Li, Jianfeng Yao (2026+). Limiting laws for spiked eigenvalues of renormalized sample covariance matrices under ultra-high dimension. *Manuscript*.

🔧 PROFESSIONAL SERVICES

- **Journal reviewer for:** Annals of Statistics, Biometrics, Communications in Statistics — Theory and Methods

PRESENTATIONS

- (Poster) “Robust estimation for number of factors in high dimensional factor modeling via Spearman correlation matrix”, [RMTA2023](#), Shenzhen, China, June 2023.
- (Contributed talk) “Eigenvalue statistics in ultra-high dimensional sample covariance matrices”, [2024 IMS China Meeting](#), Yinchuan City, Ningxia, China, July 2024.
- (Contributed talk) “On spiked eigenvalues of general sample covariance matrices under extreme aspect ratio”, [2025 IMS ICSDS](#), Seville, Spain, December 2025. ([ICSDS Junior Researcher Travel Award](#))

TEACHING ASSISTANT

Courses at HKU

- (STAT6010/7610) Advanced Probability
(2023, Course by Prof. Marius Hofert)
- (STAT2601) Probability and Statistics I
(2 times TA in 2021 and 2024, Course by Dr. K.P., WAT)

Courses at SUSTech

- (STA5001) High Dimensional Statistics
(2 times TA in 2022 & 2023, Course by Prof. Zeng Li)
- (MAT7102/MAT412) Selected Research Topics in Statistics
(2020, Course by Prof. Qi-Man Shao)
- (MA308) Statistical Computation and Software
(2020, Course by Prof. Zeng Li)
- (MA103A) Linear Algebra A
(2 times TA in 2018 and 2019; Course by Prof. Jiagang Yang, Prof. Yimao Chen)

SKILLS

Programming: Julia, R, Python, MATLAB

Technologies: $\text{\LaTeX}$, Git