DONG HUANG

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EDUCATION

Tsinghua University, Department of Statistics and Data Science   Sept. 2023 – June 2028
Ph.D. in Statistics   Advisor: Pengkun Yang
Tsinghua University, Department of Mathematical Sciences   Sept. 2019 – June 2023
B.S. in Mathematics

PUBLICATIONS

- **Dong Huang**, Pengkun Yang, (α-β)
  "Sample Complexity of Correlation Detection in the Gaussian Wigner Model,"
  The 42nd International Conference on Machine Learning, volume 267, pages 26020-26040, 2025. [conference][arxiv]
- **Dong Huang**, Xianwen Song, Pengkun Yang, (α-β)
  "Information-Theoretic Thresholds for the Alignments of Partially Correlated Graphs,"
  short version: *The 37th Annual Conference on Learning Theory*, 2494-2518, 2024. [conference]
  long version: *IEEE Transcations on Information Theory*, 71(12): 9674-9697, 2025. [journal] [arxiv]
- Yucong Lin, Silu Li, Jiaxing Xu, Jiawei Xu, **Dong Huang**, Wendi Zheng, Yuan Cao, Junwei Lu
  "Graph Over-Parameterization: Why the Graph Helps the Training of Deep Graph Convolutional Network,"
  Neurocomputing, Volume 534, pp. 77-85, 2023. [journal]

MANUSCRIPT

- **Dong Huang**, Pengkun Yang, (α-β)
  "Testing Correlation in Graphs by Counting Bounded Degree Motifs ,"
  submitted. [arxiv]
- **Dong Huang**, Pengkun Yang, (α-β)
  "Information-Theoretic and Computational Limits of Correlation Detection under Graph Sampling,"
  submitted. [arxiv]
- Shuyang Gong, **Dong Huang**, Zhangsong Li, (α-β)
  "Fundamental Limits of Community Detection in Contextual Multi-Layer Stochastic Block Models,"
  submitted. [arxiv]
- **Dong Huang**, Chenyang Tian, Pengkun Yang, (α-β)
  "Sharp Statistical Limits and Algorithm for Attributed Graph Alignment, "
  submitted.
- Xinyuan Fan[*], **Dong Huang**[*], Tianpai Luo[*], Pengkun Yang, Weichi Wu,
  "Learning Global Temporal Dynamics in Sparse Networks via Cycle Counts,"
  submitted.
- **Dong Huang**, Xianwen Song, Pengkun Yang, (α-β)
  "Alignments in the Partially Correlated Graphs of Unknown Size,"
  working paper.

  α-β denotes alphabetical order, and $*$ denotes co-first authorship.

RESEARCH INTEREST

My research interests are in statistics, probability and theoretical computer science.

AWARDS AND HONORS

Comprehensive Scholarship of Tsinghua University   Nov. 2025
Excellent Social Practice Scholarship of Tsinghua University   Nov. 2025
Excellent Teaching Assistant of Tsinghua University   Dec. 2024
Comprehensive Scholarship of Tsinghua University   Nov. 2024
Outstanding Graduates of Tsinghua University   June 2023
Comprehensive Scholarship of Tsinghua University   Nov. 2022
Excellent Scholarship for Scientific Research and Innovation of Tsinghua University   Nov. 2021
First Prize in National College Student Mathematics Competition   Dec. 2020
12 · 9 Scholarship of Tsinghua University   Nov. 2020
Comprehensive Scholarship of Tsinghua University   Nov. 2020
Academic Excellence Scholarship of Tsinghua University   Nov. 2020

TEACHING

2025 Fall, Mathematical Analysis & Advanced Linear Algebra (Undergraduate, Department of Statistics and Data Science), Academic Advisor, Tsinghua University.
2023 Fall and 2024 Fall, Elementary Probability Theory, Teaching Assistant, Tsinghua University.
2024 Spring and 2025 Spring, Multivariate Statistical Analysis, Teaching Assistant, Tsinghua University.

SKILLS

LaTeX, Python, R, Mathematica, Matlab.

TALKS

Tsinghua Statistics Colloquium (Beijing, China)	Nov. 2025
Beijing-Tianjin-Hebei Youth Probability Statistics Academic Seminar (Beijing, China)	June 2025
The 2nd Joint Conference on Statistics and Data Science in China (Kunming, China)	July 2024
International Conference on Frontiers of Data Science (Hangzhou, China)	July 2024
Tsinghua Statistics Colloquium (Beijing, China)	Nov. 2023
National Conference of Young Scholars in Probability and Statistics (Xuzhou, China)	Oct. 2023