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JINGQIU DING PH.D.

EDUCATION

Department of Computer Science, ETH Zurich Zurich, Switzerland
Ph.D. in Theoretical Computer Science Sep 2020 – Sep 2025
- Advisor: Prof. David Steurer
- Research focus: robust graph clustering, diffusion sampling, differential privacy, and combinatorial optimization

Department of Mathematics, ETH Zurich Zurich, Switzerland
M.Sc. in Computational Science and Engineering(Robotics track) Sep 2017 – Feb 2020
- GPA: 5.63/6.00
- Courses: Numerical PDEs, Machine learning, High performance computing

Department of Physics, Nanjing University Nanjing, China
B.Sc. in Physics (Condensed Matter) Sep 2013 – Jun 2017
- GPA: 4.55/5.00, ranking: 11/211

SELECTED PUBLICATIONS

1. **Estimating Rank-One Spikes from Heavy-Tailed Noise via Self-Avoiding Walks**. *NeurIPS (**Spotlight**)*, 2020. With Samuel B.Hopkins and David Steurer, developed efficient PCA algorithms with optimal statistical guarantees even under heavy-tailed noise.
2. **Robust Recovery for Stochastic Block Models**. *FOCS*, 2021. With Tommaso d'Orsi, Rajai Nasser, David Steurer, developed the first robust algorithm for clustering in stochastic block model under optimal conditions.
3. **Fast Algorithm for Overcomplete Order-3 Tensor Decomposition**. *COLT*, 2022. With Tommaso d'Orsi, Chih-Hung Liu, Stefan Tiegel, David Steurer, developed a simple and fast algorithm matching guarantees of previous theoretical algorithm.
4. **Reaching Kesten–Stigum Threshold in the Stochastic Block Model under Node Corruptions**. *COLT*, 2023. With Yiding Hua, Tommaso D'Orsi and David Steurer, developed the first algorithm achieving Kesten-Stigum threshold in stochastic block model under node corruptions.
5. **Private Graphon Estimation via Sum-of-Squares**. *STOC*, 2024. With Hongjie Chen, Tommaso d'Orsi, Yiding Hua, Chih-Hung Liu, David Steurer, developed first differentially private algorithm for learning stochastic block model.
6. **Private Edge-Density Estimation for Random Graphs: Optimal, Efficient, and Robust**. *NeurIPS (**Spotlight**)*, 2024. With Hongjie Chen, Yiding Hua, David Steurer, developed the first differentially private algorithms for learning random graphs with optimal guarantees.
7. **Computational–Statistical Gaps for Improper Learning in Sparse Linear Regression**. *COLT*, 2024. With Rares-Darius Buhai, Stefan Tiegel, provide evidence for information-computation tradeoffs in prediction under sparse linear models.
8. **Low-Degree Conjecture Implies Sharp Computational Thresholds in the Stochastic Block Model**. *Neurips(**Spotlight**)*, 2025, with Yiding Hua, Lucas Slot, David Steurer
9. **Improved Robust Estimation for Erdos-Renyi Graphs: The Sparse Regime and Optimal Breakdown Point** *Neurips*, 2025, with Hongjie Chen, Yiding Hua, Stefan Tiegel

CODING

Programming: `Python (proficient),C++ (proficient),Pytorch (proficient), Sklearn (proficient).`

Selected project: `Fake Voice Detection Using Neural Networks: code available on Github, implemented the fake-voice generation and detection based on neural-network.`

Awards and Honors

- **ETH Scholarship** 2019
- **Excellent Graduate**, Nanjing University 2017
- **Meritorious Winner**, Interdisciplinary Modelling Contest 2016
- **Samsung Scholarship**, Nanjing University 2016