

JING LIU

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School of Physical Science and Technology, Beijing University of Posts and Telecommunications
No.10 Xitucheng Road, Haidian District Beijing, 100876 China

EDUCATION

School of Systems Science, Beijing Normal University 2018.09 – 2023.07
Ph.D., supervisor: [Jiang Zhang](#)

Department of Physics, Beijing Normal University 2014.09 – 2018.07
Bachelor of Science

WORKING EXPERIENCE

School of Physical Science and Technology, BUPT 2025.11 – Present
Tenure-Track Assistant Professor

Institute of Theoretical Physics, Chinese Academy of Sciences 2023.11 – 2025.10
Postdoctoral Researcher, postdoc collaborator: [Pan Zhang](#)

Zhejiang Lab 2023.07 – 2023.10
Senior Research Specialist

RESEARCH GRANTS

Young Scientists Fund of the NSFC 2025.01 - 2027.12

PUBLICATIONS

- Tensor Network Markov Chain Monte Carlo: Efficient Sampling of Three-Dimensional Spin Glasses and Beyond
Tao Chen, **Jing Liu**[†], Youjin Deng[†], Pan Zhang[†] ([†]corresponding author)
[arXiv:2509.23945](#)
- BatchTNMC: Efficient sampling of two-dimensional spin glasses using tensor network Monte Carlo
Tao Chen, Jingtong Zhang, **Jing Liu**[†], Youjin Deng[†], Pan Zhang[†] ([†]corresponding author)
[arXiv:2509.19006](#)
- Efficient optimization of variational autoregressive networks with natural gradient
Jing Liu, Ying Tang, Pan Zhang
[Physical Review E 111 \(2\), 025304](#)
- Recurrent Dynamic Message Passing with Loops for Epidemics on Networks
Fei Gao, **Jing Liu**, Yaqian Zhao
[Chaos, Solitons & Fractals 184, 115045](#)
- Learning nonequilibrium statistical mechanics and dynamical phase transitions
Ying Tang*, **Jing Liu***, Jiang Zhang, Pan Zhang (*contributed equally)
[Nature Communications 15 \(1\), 1117](#)
- Tensor networks for unsupervised machine learning
Jing Liu, Sujie Li, Jiang Zhang, Pan Zhang
[Physical Review E 107 \(1\), L012103](#)

7. Human mobility in interest space and interactive random walk
Fanqi Zeng, Li Gong, **Jing Liu**, Jiang Zhang, Qinghua Chen, Ruyue Xin
[Journal of Physics: Complexity 1 \(2\), 025004](#)
8. Gumbel-Softmax Optimization: A Simple General Framework for Combinatorial Optimization Problems on Graphs
Jing Liu, Fei Gao, Jiang Zhang
[COMPLEX NETWORKS 2019: Complex Networks and Their Applications VIII pp 879–890](#)
9. A general deep learning framework for network reconstruction and dynamics learning
Zhang Zhang, Yi Zhao, **Jing Liu**, Shuo Wang, Ruyi Tao, Ruyue Xin, Jiang Zhang
[Applied Network Science 4 \(110\), 1-17](#)
10. Chinese Address Similarity Calculation Based on Auto Geological Level Tagging
Jing Liu, Jianbin Wang, Changqing Zhang, Xiubo Yang, Jianbo Deng, Ruihe Zhu, Xiaojie Nan, Qinghua Chen
[ISNN 2019: Advances in Neural Networks – ISNN 2019 pp 431–438](#)
11. Coevolution of agent's behavior and noise parameters in majority vote game on multilayer networks
Jing Liu, Ying Fan, Jiang Zhang, Zengru Di
[New Journal of Physics 21 \(1\), 015007](#)