Ben-Zheng Li

✉ *lbz1604179601@gmail.com*
🌐 *benzhengli.github.io/*

Contact Information

👤 Ben-Zheng Li

✉ lbz1604179601@gmail.com (primary), e1495946@u.nus.edu (official)

⌂ https://benzhengli.github.io/ (primary)

ⓘ https://orcid.org/0000-0002-1508-9015

⅁ Google Scholar 100+ citations (h-index: 6 & i10-index: 4)

Current Research Interests

☐ Matrix/Tensor Computations   ☐ Data Science   ☐ Image Processing
☐ Tensor Optimization   ☐ Signal Processing   ☐ Machine Learning

Education

2022–2025 **PhD in Mathematics, University of Electronic Science and Technology of China, China**, Thesis: Modeling and Algorithm for High-Dimensional Data Restoration Based on Tensor Implicit Priors. Supervisor: Prof. Xi-Le Zhao.

2019–2022 **Master's degree in Mathematics, University of Electronic Science and Technology of China, China**, Thesis: Tensor Completion Via Collaborative Sparse and Low-Rank Transforms. Supervisor: Prof. Xi-Le Zhao.

2015–2019 **Bachelor's degree in Mathematics, East China University of Technology ,China.**

Publications

Journal articles

1. **Ben-Zheng Li**, Xi-Le Zhao, Xiongjun Zhang, Teng-Yu Ji, Xinyu Chen, and Michael K. Ng, *A Learnable Group-Tube Transform Induced Tensor Nuclear Norm and Its Application for Tensor Completion*, SIAM Journal on Imaging Sciences, vol. 16, pp. 1370–1397, 2023.

2. **Ben-Zheng Li**, Xi-Le Zhao, Hao Zhang and Delin Chu, *Dictionary-Based Block Term Decomposition for Third-Order Tensors*, SIAM Journal on Imaging Sciences, early accepted, 2025.

3. **Ben-Zheng Li**, Xi-Le Zhao, Hao Zhang, Delin Chu, *Importance-Aware Nonlocal Tensor Nuclear Norm for High-Dimensional Image Recovery*, Inverse Problems, early accepted, 2025.

4. **Ben-Zheng Li**, Xi-Le Zhao, Teng-Yu Ji, Xiongjun Zhang, and Ting-Zhu Huang, *Nonlinear Transform Induced Tensor Nuclear Norm for Tensor Completion*, Journal of Scientific Computing, vol. 92, no. 3, 2022.

5. **Ben-Zheng Li**, Xi-Le Zhao, Xinyu Chen, Meng Ding, and Ryan Wen Liu, *Convolutional Low-Rank Tensor Representation for Structural Missing Traffic Data Imputation*, IEEE Transactions on Intelligent Transportation Systems, vol. 25, pp. 18847-18860, 2024.

6. **Ben-Zheng Li**, Xi-Le Zhao, Jian-Li Wang, Yong Chen, Tai-Xiang Jiang and Jun Liu, *Tensor Completion Via Collaborative Sparse and Low-Rank Transforms*, IEEE Transactions on Computational Imaging, vol. 7, pp. 1289-1303, 2021.

7. Cheng-Yao Lyu, Xi-Le Zhao, **Ben-Zheng Li**, Hao Zhang, and Ting-Zhu Huang, *Multi-Dimensional Image Recovery via Fully-Connected Tensor Network Decomposition Under the Learnable Transforms*, Journal of Scientific Computing, vol. 93, no. 49, 2022.

8. Chuan Wang, Xi-Le Zhao, Yu-Bang Zheng, **Ben-Zheng Li**, and Michael K. Ng, *Functional Tensor Singular Values Decomposition*, SIAM Journal on Scientific Computing, vol. 47, 2025.

9. Sheng Liu, Xi-Le Zhao, Jinsong Leng, **Ben-Zheng Li**, Jing-Hua Yang, Xinyu Chen, *Revisiting High-Order Tensor Singular Value Decomposition from Basic Element Perspective*, IEEE Transactions on Signal Processing, vol. 72, pp. 4589-4603, 2024.

10. Zhi-Long Han, Ting-Zhu Huang, Xi-Le Zhao, **Ben-Zheng Li** and Meng Ding, *Topology-Induced Low-Rank Tensor Representation for Spatio-Temporal Traffic Data Imputation*, IEEE Transactions on Knowledge and Data Engineering, early accepted, 2025.

11. Jun-Xian Kuang, Sheng Liu, Xi-Le Zhao*, **Ben-Zheng Li** and Xiufen Fang, "Grouped Tensor Low-Rank Representation for Multi-Dimensional Image Recovery", *Inverse Problems and Imaging*, early accepted, 2025.

12. Chuan Wang, Xi-Le Zhao, Hao Zhang, **Ben-Zheng Li**, and Meng Ding *Hyperspectral Image Mixed Noise Removal via Nonlinear Transform-based Block-Term Tensor Decomposition*, IEEE Geoscience and Remote Sensing Letters, vol. 20, pp. 1-5, 2023.

13. Wen-Jie Zheng, Xi-Le Zhao, Yu-Bang Zheng, Teng-Yu Ji, and **Ben-Zheng Li**, "Dynamic Low-Rank Tensor Decomposition for Video Applications", *IEEE Transactions on Circuits and Systems for Video Technology*, early accepted, 2025.

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Conference articles

1. **Ben-Zheng Li**, Teng-Yu Ji, and Jian-Li Wang, *Hyperspectral Images Mixed Noise Removal Via Group-Tube Transform Induced Sparsity and Low-Rankness*, in Proceedings of the IEEE International Geoscience and Remote Sensing Symposium, pp. 7618-7621, 2024.

Academic Visits

Nov. 2024 – Nov. 2025 Visiting PhD student at National University of Singapore. Supervisor: Prof. Delin Chu.

Talks and Conferences

Oct. 2025 CSIAM Annual Meeting, Changsha, China. Poster: "Dictionary-Based Block Term Decomposition for Third-Order Tensors".

Jul. 2024 IGARSS, Athens, Greece. Talk: "Hyperspectral Images Mixed Noise Removal Via Group-Tube Transform Induced Sparsity and Low-Rankness".

Oct. 2023 CSIAM Annual Meeting, Kunming, China. Talk: "A Learnable Group-Tube Transform Induced Tensor Nuclear Norm and Its Application for Tensor Completion".

Oct. 2021 CSIAM Annual Meeting, Anhui, China. Talk: "Tensor Completion Via Collaborative Sparse and Low-Rank Transforms".

Selected Awards and Honors

Jan. 2025 Young Elite Scientists Sponsorship Program by CAST – Doctoral Student Special Plan

Nov. 2025 Outstanding Graduate of Sichuan Province

Jul. 2024 China Scholarship Council scholarships

Jul. 2023	Frist-Class Academic Prize
Sep. 2022	Special Postfraduate Scholarship of Science
May 2022	Outstanding Master's Thesis
Nov. 2021	Space Science and Technology Scholarship
Oct. 2021	Frist-Class Academic Prize

Academic Activities

Reviewer

SIAM Journal on Imaging Sciences

IEEE Transactions on Intelligent Transportation Systems

IEEE Transactions on Neural Networks and Learning Systems

IEEE Internet of Things Journal

Computational and Applied Mathematics

Signal Processing: Image Communication

Optik

Professional Memberships

2023–	Student Member of the CSIAM
2024–	Student Member of the IEEE