Renfeng Peng

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♨ Sept. 30th, 1998, Changde, Hunan   **G** Renfeng Peng at Google scholar

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🎓 Education

2021.09 – current	**Ph.D. student in computational mathematics.** Academy of Mathematics and System Science, Chinese Academy of Sciences; and University of Chinese Academy of Sciences
2017.09 – 2021.07	**Bachelor in mathematics and applied mathematics** School of Mathematical Sciences, Tongji University.

📄 Publications

Refereed papers

1. Bin Gao, Renfeng Peng, and Ya-xiang Yuan. "Low-rank optimization on Tucker tensor varieties". In: *Mathematical Programming* (2025), pp. 1–51. 🔗 DOI: 10.1007/s10107-024-02186-w.

2. Bin Gao, Renfeng Peng, and Ya-xiang Yuan. "Optimization on product manifolds under a preconditioned metric". In: *SIAM Journal on Matrix Analysis and Applications* 46.3 (2025), pp. 1816–1845. 🔗 DOI: https://epubs.siam.org/doi/abs/10.1137/24M1643773.

3. Chengkai Zhu, Renfeng Peng, Bin Gao, and Xin Wang. "Riemannian Optimization for Holevo Capacity". In: *2025 IEEE International Symposium on Information Theory (ISIT)*. 2025, pp. 1–6. 🔗 DOI: 10.1109/ISIT63088.2025.11195337.

4. Bin Gao, Renfeng Peng, and Ya-xiang Yuan. "Riemannian preconditioned algorithms for tensor completion via tensor ring decomposition". In: *Computational Optimization and Applications* 88 (2024), pp. 443–468. 🔗 DOI: 10.1007/s10589-024-00559-7.

5. Ling-Xi Zhang, Ren-Feng Peng, and Jun-Feng Yin. "A second order numerical scheme for fractional option pricing models". In: *East Asian J. Appl. Math* 11 (2021), pp. 326–348. 🔗 DOI: 10.4208/eajam.020820.121120.

Preprints

1. Bin Gao, Renfeng Peng, and Ya-xiang Yuan. "First-order methods on bounded-rank tensors converging to stationary points". In: *arXiv preprint arXiv:2503.04523* (2025).

2. Renfeng Peng, Chengkai Zhu, Bin Gao, Xin Wang, and Ya-xiang Yuan. "Normalized tensor train decomposition". In: *arXiv preprint arXiv:2511.04369* (2025).

3. Bin Gao, Renfeng Peng, and Ya-xiang Yuan. "Desingularization of bounded-rank tensor sets". In: *arXiv preprint arXiv:2411.14093* (2024).

💡 Skills

Languages	Mandarin Chinese, English.
Coding	Matlab, C, C++, LaTeX, …

🏅 Awards and Achievements

2025/09	**AMSS President's Special Award (32,000 CNY).**
2024/09	**Loo-Keng Hua Scholarship.**
2021/09	**Loo-Keng Hua Scholarship.**

🖥 Presentations

2025/07	**The 8th International Conference on Continuous Optimization**. Los Angeles, U.S.
2024/11	**The 7th PKU PhD Symposium for Applied Mathematics**. Beijing, China.