

Renfeng Peng

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🎂 Sept. 30th, 1998, Changde, Hunan

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<http://jimmypeng1998.github.io/>



Renfeng Peng at Google scholar



🎓 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

Journal articles

- 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](https://doi.org/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://doi.org/10.1137/24M1643773>.
- 3 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](https://doi.org/10.1007/s10589-024-00559-7).
- 4 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](https://doi.org/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 Chengkai Zhu, Renfeng Peng, Bin Gao, and Xin Wang. “Riemannian optimization for Holevo capacity”. In: *arXiv preprint arXiv:2501.11576* (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++, L^AT_EX, ...

🏅 Awards and Achievements

2024/09

■ **Loo-Keng Hua Scholarship**.

Awards and Achievements (continued)

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.