

Xiang-Xiang Wang

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Education

- 2021-Now Ph.D. student in Mathematics
 Department of Mathematics and Statistics, University of Nevada, Reno
 GPA: 4.00 (out of 4)
- 2017-2020 M.Sc. in Statistics
 Shanghai University
 Average Score: 90.25 (out of 100)
- 2013-2017 B.Sc. in Information and Computing Science
 North China University of Water Resources and Electric Power
 GPA: 4.14 (out of 5)

Awards

- 2022 Graduate Student Association (GSA) Travel Award, University of Nevada, Reno. (\$500)
- 2021 Graduate Student Association (GSA) Research Grant Award, University of Nevada, Reno. (\$1,000)
- 2021 Graduate Dean's Merit Scholarship, University of Nevada, Reno. (\$10,000)
- 2020 College Graduate Excellence Award of Shanghai City, China.
- 2018 Excellent Student Award of Shanghai University, China.
- 2018 Third Prize in "Huawei Cup", the 15th China Post-Graduate Mathematical Contest in Modeling, Shanghai University, China.
- 2017 Outstanding Graduate Award of Henan Province, China.
- 2016 "Three Good Students" Award of General Higher Education in Henan Province.
- 2015 National Scholarship, China. (CNY 8,000)
- 2014 Second Prize in the Sixth National College Mathematics Competition, China.

Research Interests

Algebra, Matrix Theory and Applications.

Classes Taken

Topology - Math 640
Numerical Analysis and Approximation I - Math 701
Numerical Analysis and Approximation II- Math 702
Abstract and Real Analysis I - Math 713
Complex Function Theory - Math 715
Seminar in Teaching Mathematics and Statistics - Math 777
Numerical Linear Algebra – Math 736
Set Theory and Hilbert Spaces – Math 793

Teaching

Math 176 Introductory Calculus for Business and Social Sciences, Spring 2022, Summer 2023
Math 126 Precalculus I, Fall 2022, Spring 2023

Math 127 Precalculus II, Winter 2023, Summer 2023

Qualifying Exams

Analysis based on Math 713 and Math 715 (High pass)

Numerical Analysis based on Math 701 and Math 702 (High pass)

Linear Algebra based on Math 735 and Math 736 (High pass)

Publications

1. Z.H. He, X.X. Wang, Y.F. Zhao, Eigenvalues of Quaternion Tensors with Applications to Color Video Processing, *Journal of Scientific Computing*, 94 (2023), DOI: <https://doi.org/10.1007/s10915-022-02058-5>
2. Z.H. He, C. Navasca, X.X. Wang, Decomposition for a quaternion tensor triplet with applications, *Advances in Applied Clifford Algebras*, 32 (2022), 9 (19 pages). DOI: <https://doi.org/10.1007/s00006-021-01195-8>
3. Z.H. He, W.L. Qin, X.X. Wang, Some applications of a decomposition for five quaternion matrices in control system and color image processing, *Computational and Applied Mathematics*, 40 (2021), 205 (29 pages). DOI: <https://doi.org/10.1007/s40314-021-01579-3>
4. S.W. Yu, Z.H. He, T.C. Qi, X.X. Wang, The equivalence canonical form of five quaternion matrices with applications to imaging and Sylvester-type equations, *Journal of Computational and Applied Mathematics*, 393 (2021), 113494 (20 pages). DOI: <https://doi.org/10.1016/j.cam.2021.113494>
5. Z.H. He, C. Chen, X.X. Wang, A simultaneous decomposition for three quaternion tensors with applications in color video signal processing, *Analysis and Applications*, 19 (3) (2020) 529-549. DOI: <https://www.worldscientific.com/doi/10.1142/S0219530520400084>
6. Q.W. Wang, X.X. Wang, Arnoldi method for large quaternion right eigenvalue problem, *Journal of Scientific Computing*, 82 (2020), 58 (20 pages). DOI: <https://doi.org/10.1007/s10915-020-01158-4>
7. G.H. Peng, X.X. Wang, Y.Z. Zhang, Multidimensional scaling analysis based on attribute reduction of bivariate mutual information, *International Mathematical Forum*, 12 (3) (2017) 111-118. DOI: <https://doi.org/10.12988/imf.2017.610133>

Presentations

1. X.X. Wang, Some Inequalities of Geometric Means in Grassmannians, Joint Mathematics Meetings (JMM 2024), San Francisco, January 3-6, 2024.
2. X.X. Wang, Some Inequalities of Geometric Means in Grassmannians, 6th Annual GSA Poster Symposium.
3. X.X. Wang, Geometric means and their properties of Grassmannians, The 10th International Conference on Matrix Analysis and Applications (ICMAA), KunMing, China, August 15-18, 2023.
4. X.X. Wang, Geometric means and their properties of Grassmannians, International Workshop on Matrix Analysis and Its Applications, Quynhon, Vietnam, July 7-8, 2023.
5. X.X. Wang, Arnoldi method for right eigenvalue problem of the large-scale quaternion matrices, Joint Mathematics Meetings (JMM 2023), Boston, January 4-7, 2023.
6. X.X. Wang, Arnoldi method for right eigenvalue problem of the large-scale quaternion matrices, Joint Mathematics Meetings (JMM 2022), Seattle, January 5-8, 2022, postponed due to COVID-19 and

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held virtually, April 6-9, 2022.

Conferences Attended

1. Joint Mathematics Meetings (JMM 2024), San Francisco, January 3-6, 2024.
2. The 10th International Conference on Matrix Analysis and Applications (ICMAA), KunMing, China, August 15-18, 2023 (Virtual).
3. International Workshop on Matrix Analysis and Its Applications, Quynhon, Vietnam, July 7-8, 2023 (Virtual).
4. Joint Mathematics Meetings (JMM 2023), Boston, January 4-7, 2023.
5. International Conference on Matrix Theory with Applications (ICMTA), Jeju, Korea, December 1-5, 2022 (Virtual).
6. Second international workshop on Matrix Theory and Applications, hosted by the Departments of Mathematics: AKFA University-Uzbekistan, Sukkur IBA University-Pakistan, Naresuan University-Thailand and Bukhara State University-Uzbekistan, November 15-17, 2022 (Virtual).
7. International Workshop on Matrix Analysis and Its Applications (MAA 2022), Quy Nhon, Viet Nam, June 4, 2022 (Virtual).
8. Joint Mathematics Meetings (JMM 2022), Seattle, January 5-8, 2022, postponed due to COVID-19 and held virtually April 6-9, 2022.
9. The First NU-SIBAU International Workshop on Matrix Theory and Its Applications, hosted by the Department of Mathematics at Sukkur IBA University, Pakistan and the Department of Mathematics at Naresuan University, Thailand, October 15-17, 2021 (Virtual).
10. The 2021 China-Korea International Conference on Matrix Theory with Applications & the 6th International Workshop on Matrix Inequalities and Matrix Equations (IRCTMT-AORC Joint Meeting & MIME 2021), Hainan Normal University, Hainan, China, and Shanghai University, China, November 26-27, 2021 (Virtual).

Work Experience

06/2023-08/2023: Co-Requisite Assessment Program, University of Nevada, Reno.

Professional Organization Members and University Services

Member, American Mathematical Society (AMS).

Member, International Linear Algebra Society (ILAS).

Organizer, Bi-Weekly Matrix Seminar Department of Mathematics and Statistics, UNR
Nevada GAIN Program, mentor for new graduate students, 2023

Journal Reviewer: Linear and Multilinear Algebra, Advances in Operator Theory

Skill & Interests

Computer Skills: Excel, Word, MATLAB, LaTeX, R, Python.

Other Interests: Snowboard, Hiking, Running.