RUHUI JIN

Department of Mathematics ⋄ University of Texas at Austin

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EDUCATION

University of Texas at Austin, Austin, Texas, USA   August 2017 - present
Doctor of Philosophy in Mathematics
Advisor: Rachel Ward

Sichuan University, Chengdu, China   August 2013 - July 2017
Bachelor of Science (Honors) in Mathematics

RESEARCH INTERESTS

High-dimensional data analysis, numerical multi-linear algebra, applied probability, optimization.

PUBLICATIONS

Space-time reduced-order modeling for uncertainty quantification.
(by **R. Jin**, F. Rizzi and E. Parish.) In revision. Technical Report, Sandia National Laboratories, 2021.
Tensor-structured sketching for constrained least squares.
(by K. Chen and **R. Jin**.) SIAM Journal on Matrix Analysis and Applications, to appear. Available on arXiv.
Faster Johnson-Lindenstrauss Transform via Kronecker Products.
(by **R. Jin**, T. G. Kolda and R. Ward.) Information and Inference: A Journal of the IMA. Available from journal.

EXPERIENCES

Graduate Researcher   September 2018 - present
University of Texas at Austin, Department of Mathematics and Oden Institute

- Analyze tensor-structured random projections with application to constrained optimizations.

- Develop scalable algorithmic scheme for large-scale tensor decompositions.

NSF Mathematical Science Graduate Intern   May - August 2021
Sandia National Laboratories   Mentors: Eric Parish and Francesco Rizzi
Developed and implemented space-time reduced-order modeling algorithm for large-scaled uncertainty quantification problems.

Visiting students   June - August 2019
Simons Institute for the Theory of Computing
Participated seminars about state-of-the-art deep learning research.

PRESENTATIONS

Tensor-structured sketching for constrained least squares.   November 2021
Annual Meeting of the SIAM TX-LA Section, South Padre Island, TX
Space-time reduced-order modeling for uncertainty quantification.   July 2021
CSRI Summer Poster Blitz, Sandia National Laboratories, virtual
Faster Johnson-Lindenstrauss transform via Kronecker products.   June 2020
SIAM Conference on Mathematics of Data Science, virtual

CONFERENCES AND WORKSHOPS

Annual Meeting of the SIAM TX-LA Section   November 2021
South Padre Island, TX
CSRI Summer Poster Blitz Session   July 2021
Sandia National Laboratories, virtual
SIAM Conference on Mathematics of Data Science   May - June 2020
virtual
PACM Colloquium   November 2019
Princeton University, Princeton, NJ
Computational Harmonic Analysis and Data Science, participant   October - November 2019
Banff International Research Station, Oaxaca, Mexico
Austin-TAMU Probability and Related Fields, participant   October 2019
College Station, TX
Foundations of Deep Learning, visiting graduate student   June - August 2019
Simons Institute for the Theory of Computing, Berkeley, CA
Gene Golub SIAM Summer School, participant   June 2019
Aussois, France
Algorithmic, Mathematical, and Statistical Foundations of Data Science and Applications
April 2019
Purdue University, West Lafayette, IN
Foundations of Data Science   August - December 2018
Simons Institute for the Theory of Computing, Berkeley, CA

AWARDS

NSF Mathematical Sciences Graduate Internship   2021
National Science Foundation
Graduate School Summer Fellowship   2019
UT Austin
Lixin Tang Fellowship (Highest Undergraduate Scholarship)   2016
Shinesun Group and Sichuan University

SKILLS

Coding: MATLAB, Python.
Languages: English, Chinese.

SERVICES

Distinguished Women in Mathematics, UT Austin   2019 - present
Organization member
Directed Reading Program, UT Austin   Spring 2018 and Spring 2020
Mentors
Junior Applied Math and Probability Seminar, UT Austin   Spring 2019
Organizer

TEACHING

Teaching Assistant, UT Austin   2017 - present
Multivariable Calculus, Integral Calculus, ODE with Linear Algebra, Applied statistics, Probability.
Directed Reading Program Mentor, UT Austin   Spring 2018, Spring 2020