

Zexin Liu

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Education

University of Utah, Salt Lake City, Utah, U.S. 2017.08 - present
Ph.D. in Mathematics (Advisor: Prof. Akil Narayan)

Beihang University, Beijing, China 2012.08 - 2016.06
B.S. in Applied Mathematics (Advisor: Prof. Peng Wang)

Research Experience

Research Interest

- Uncertainty Quantification in Fractional PDEs
- Computation of Recurrence Coefficients for Orthogonal Polynomials
- Approximation of Polynomial Chaos Expansion
- Machine learning and Deep Neural Networks

Preprints:

- Numerical Approximation of Fractional Powers of Elliptic Operators, preprint, 2019.
- Efficient Algorithms of computing the Three-term Recurrence Coefficients, preprint, 2019.

Talks:

- Algorithms for Computing the Recurrence Coefficients for Measures in General Forms, April 6th, 2019, Utah State University, Logan, SIAM Wasatch Student Chapters Conference.
- Composite Algorithms for Computing the Three-term Recurrence Coefficients, March 22, 2019, University of Utah, SLC, Recruitment Lightning Talks of Math Department University of Utah.
- Introduction for Orthogonal Polynomials and Three-term Recurrence Coefficients, March 21, 2019, University of Utah, SLC, Applied Math Collective of Math Department University of Utah.

Conference & Workshops Attended:

- The first International Conference on Quantification of Uncertainty in Engineering, Sciences and Technology (QUEST), Oct 19 - 23, 2015, Beijing, China.
- Summer Workshop on Quantification of Uncertainty, Aug 17 - 21, 2015, Beijing, China.

Teaching Experience

Dept. Math., University of Utah, 2017.08 - 2018.05.

- MATH 1310 - Engineering Calculus II (Lab Section) (2017 Fall).
- MATH 2210 - Calculus III (TA) (2018 Spring).

Award & Honors

- Major Fellowship in College Contest, 2015.
- First Prize in China Undergraduate Mathematical Contest in Modeling, 2015.

Skills

Computer Languages

Python, Matlab, C++, R, \LaTeX .