

Education

**School of Mathematical Sciences
Peking University**

Beijing, China

B.S. in Information and Computing Science GPA: 3.834/4.0 ranking: 6/48

Sept 2019 –

Selected courses: Mathematical Analysis 94.33 (1-3 average), Advanced Algebra 99 (1-2 average), Probability Theory 100, Introduction to Computation 100, Function of Real Variables 90, Functional Analysis 90.5, Numerical Algebra 90, Data Structure and Algorithms 94, Mathematical Methods in Finance 100, Asymptotic Statistics 96, Computational Statistics 91, JAVA Programming 93.

Research Experience

**School of Electronic Engineering and Computer Science
Peking University**

Beijing, China

Research Intern, advised by Prof. Liwei Wang

Feb 2020 –

Work on optimization for machine learning (with a focus on adaptive methods) and expressive power of neural networks.

**Laboratory for Information & Decision Systems
Massachusetts Institute of Technology**

online

Summer Research Intern, advised by Prof. Suvrit Sra

July 2021 – September 2021

Work on theoretical analysis of accelerated optimization methods on Riemann manifolds.

**Department of Electrical and Computer Engineering
Princeton University**

online

Research Intern, advised by Prof. Jason D. Lee

January 2022 –

Work on implicit low-rank bias of gradient flow for matrix factorization and deep linear networks.

Publications

(* denotes alphabetical ordering or equal contribution)

- Bohang Zhang*, **Jikai Jin***, Cong Fang, Liwei Wang. **Improved Analysis of Clipping Algorithms for Non-convex Optimization**, 33th Annual Conference on Neural Information Processing Systems (NeurIPS), 2020.
- Jikai Jin**. **On The Convergence of First Order Methods for Quasar-Convex Optimization**, 12th Annual Workshop on Optimization for Machine Learning, arXiv preprint arXiv:2010.04937.
- Jikai Jin**, Bohang Zhang, Haiyang Wang, Liwei Wang. **Non-convex Distributionally Robust Optimization: Non-asymptotic Analysis**, 34th Annual Conference on Neural Information Processing Systems (NeurIPS), 2021.

4. **Jikai Jin**, Suvrit Sra. ***Understanding Riemannian Acceleration via a Proximal Extragradient Framework***, submitted to COLT 2022, arXiv preprint arXiv:2111.02763.

Honors & Awards

- 2021 PKU Exceptional Award for Academic Innovation
- 2021 – 2023 The elite undergraduate training program of Applied Mathematics and Statistics (expected)
- 2021 Bronze Medal, S.T. Yau College Student Mathematics Contest, Probability & Statistics, individual
- 2021 Qin-Jin Scholarship, Peking University
- 2020 Yizheng Scholarship, Peking University
- 2019 Silver Medal, 11th Romania Masters of Mathematics (RMM)
- 2018 First Prize (rank No.6) , Chinese Mathematical Olympiad
- 2018 Gold Medal (mathematics individual) and First Place (as a member of the Shanghai team), the 2nd International Olympiad of Metropolises (IOM)
- 2017 First Prize (rank No.13) , Chinese Mathematical Olympiad
- 2016 Second Prize , Chinese Mathematical Olympiad

Standardized Tests

TOEFL	Reading 29, Listening 29, Speaking 26, Writing 29, Total 113	Dec. 2021
GRE math	Scaled score 970, ranking 97%	Oct. 2021
IELTS	Listening 7.5, Reading 8.5, Writing 7.0, Speaking 6.0, Total 7.5	Sept. 2021
GRE General	Verbal 170, Quantitative 170, Writing 4.0	June 2019