Jing Xu

PhD Student, Institute for Interdisciplinary Information Sciences, Tsinghua University
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EDUCATION

TSINGHUA UNIVERSITY Sep. 2021 – Present

Ph.D in Computer Science

- **Advisor:** Andrew Chi-Chih Yao

PEKING UNIVERSITY Sep. 2017 - Jul. 2021

*B.S. Computer Science **(Turing Honor Program)***

- **Overall GPA:** 3.87/4.00
- **Ranking:** 1/93
- **Courses:**
  Probability and Statistics (4.00), Linear Algebra (4.00), Combinatorial Mathematics (3.95 &4.00)
  Data Structure and Algorithm (3.88), Algorithm Design and Analysis(3.88), Convex Optimization(3.88)
- **Honors and Awards:**
  May 4th Scholarship at PKU (Sept 2018)
  Award for Academic Excellents at PKU (Sept 2018)
  Turing Class Scholarship (Sept 2019)
  John Hopcroft Scholarship (Sept 2020)
  Huawei Scholarship (Sept 2020)
  Excellent Graduate of PKU (June 2021)

RESEARCH INTEREST

My research focuses on machine learning, both on theoretical side and application side. My current research focuses on establishing theoretical guarantees of generalization and optimization of deep learning algorithms. I have previously worked on topics including adversarial robustness, federated learning and differential privacy.

PUBLICATIONS AND PREPRINTS

1. Jing Xu*, Haoxiong Liu*
   Quantifying the Variability Collapse of Neural Networks
   ICML 2023
2. Lesi Chen, Jing Xu, Luo Luo
   Faster Gradient-Free Algorithms for Nonsmooth Nonconvex Stochastic Optimization
   ICML 2023
3. Lesi Chen*, Jing Xu*, JingZhao Zhang
   On Bilevel Optimization without Lower-level Strong Convexity
   in submission, arXiv 2301.00712
4. Jing Xu*, Jiaye Teng*, Yang Yuan, Andrew C Yao
   Towards Data-Algorithm Dependent Generalization Analysis: a Case Study on Overparameterized Linear Regression
   in submission, arXiv 2202.06054

5. Jing Xu, Sen Wang, Liwei Wang, Andrew C Yao
   FedCM: Federated Learning with Client-level Momentum
   in submission, arXiv 2106.10874

SKILLS

- **Programming:** Python, C/C++, Matlab, Pytorch, Tensorflow, LaTeX
- **English Proficiency:** TOEFL iBT: 107(Reading: 30, Listening: 29, Speaking: 24, Writing: 24), GRE: 332