Jing Xu（许靖）

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EDUCATION

Tsinghua University   2021.9 – Now

Ph.D. in Computer Science at IIIS

- **Advisor:** Andrew Chi-Chih Yao
- **Honors and Awards:**
    IIIS Scholarship (2022.9 & 2023.9)
    Toyota Scholarship (2023.9)

Peking University   2017.9 – 2021.7

B.S. in Artificial Intelligence at EECS (Turing Honor Program, with summa cum laude)

- **Overall GPA:** 3.87/4.00
- **Ranking:** 1/93
- **Advisor:** Liwei Wang
- **Honors and Awards:**
    May 4th Scholarship at PKU (2018.9)
    Award for Academic Excellence at PKU (2018.9)
    Turing Class Scholarship (2019.9)
    John Hopcroft Scholarship (2020.9)
    Excellent Graduate of PKU (2021.7)

RESEARCH INTERESTS

My research focuses on machine learning, both on theoretical side and application side. I enjoy establishing theoretical guarantees of generalization and optimization of deep learning algorithms. My current research focuses on designing practical and theoretically-sound optimization algorithms to pretrain and fine-tune large language models. I have previously worked on topics including generalization, adversarial robustness, federated learning and differential privacy.

INDUSTRY EXPERIENCE

Jump Trading   2024.6 – 2024.8

Quantitative Research Intern

- Conducted alpha analysis for China's stock market.
- Developed a volatility prediction model.
- Designed and implemented a transaction cost prediction model.

PUBLICATIONS

(* denotes equal contribution)

1. **Near-Optimal Methods for Convex Simple Bilevel Problems**
   Huaqing Zhang*, Lesi Chen*, **Jing Xu**, Jingzhao Zhang

The Thirty-ninth Annual Conference on Neural Information Processing Systems (Neurips 2024)

2. **Random Masking Finds Winning Tickets for Parameter Efficient Fine-tuning**
   Jing Xu, JingZhao Zhang
   The Forty-first International Conference on Machine Learning (ICML 2024)

3. **On Bilevel Optimization without Lower-level Strong Convexity**
   Lesi Chen*, **Jing Xu***, JingZhao Zhang
   The Thirty-seventh Annual Conference on Learning Theory (COLT 2024)

4. **Towards Data-Algorithm Dependent Generalization Analysis: a Case Study on Overparameterized Linear Regression**
   Jing Xu*, Jiaye Teng*, Yang Yuan, Andrew C Yao
   The Thirty-eighth Annual Conference on Neural Information Processing Systems (Neurips 2023)

5. **Quantifying the Variability Collapse of Neural Networks**
   Jing Xu*, Haoxiong Liu*
   The Fortieth International Conference on Machine Learning (ICML 2023)

6. **Faster Gradient-Free Algorithms for Nonsmooth Nonconvex Stochastic Optimization**
   Lesi Chen, **Jing Xu,** Luo Luo
   The Fortieth International Conference on Machine Learning (ICML 2023)

SKILLS

- **English Proficiency:** TOEFL iBT: 107(Reading: 30, Listening: 29, Speaking: 24, Writing: 24), GRE: 332

TEACHING ASSISTANT EXPERIENCES

1. Mathematics for Computer Science
   Taught by Professor Andrew Chi-Chih Yao, Tsinghua University, 2022~2023 Spring
2. Introduction to Optimization
   Taught by Professor JingZhao Zhang, Tsinghua University, 2022~2023 Autumn
3. Introduction to Computer Systems
   Taught by Professor Chenren Xu, Peking University, 2019~2020 Autumn

SERVICES

- Served as a reviewer of ICML2022, 2024, Neurips2023, 2024, ICLR2024, CVPR2024, AAAI2025