

# Zekai Wang

Ph.D. student in EECS  
Massachusetts Institute of Technology

wzekai99@gmail.com  
<https://zekai.site>

## EDUCATION

2024.9–                    **Ph.D. in Computer Science**, MIT, US; Supervisor: Ashia Wilson  
2021.9–2024.6        **M.S. in Computer Science**, Wuhan University, China; Supervisor: Weiwei Liu  
2017.9–2021.6        **B.S. in Computer Science, Rank: 13/339(3.9%)**, Wuhan University, China

## EXPERIENCE

2022.9–2023.6        **Research Intern**, Sea AI Lab, Singapore; Mentor: Tianyu Pang, Min Lin  
2020.1–2020.7        **International Exchange**, University of California, Berkeley, US  
2019.7–2019.8        **Visiting Student**, National University of Singapore, Singapore

## RESEARCH AREAS

Trustworthy machine learning, Multi-task learning

## PUBLICATIONS

### First-author Proceedings (\*: equal contribution)

2024      DRF: Improving Certified Robustness via Distributional Robustness Framework  
            **Zekai Wang**, Zhengyu Zhou, Weiwei Liu  
            AAAI Conference on Artificial Intelligence (**AAAI**)

2023      RVCL: Evaluating the Robustness of Contrastive Learning via Verification  
            **Zekai Wang**, Weiwei Liu  
            Journal of Machine Learning Research (**JMLR**)

            Better Diffusion Models Further Improve Adversarial Training  
            **Zekai Wang\***, Tianyu Pang\*, Chao Du, Min Lin, Weiwei Liu, Shuicheng Yan  
            International Conference on Machine Learning (**ICML**)

2022      Robustness Verification for Contrastive Learning  
            **Zekai Wang**, Weiwei Liu  
            International Conference on Machine Learning (**ICML**), **Long Presentation (top 2%)**

### Conference Proceedings

2022      On the Tradeoff Between Robustness and Fairness  
            Xinsong Ma, **Zekai Wang**, Weiwei Liu  
            Annual Conference on Neural Information Processing Systems (**NeurIPS**)

- MetaWeighting: Learning to Weight Tasks in Multi-Task Learning  
Yuren Mao, **Zekai Wang**, Weiwei Liu, Xuemin Lin, Pengtao Xie  
Findings of Association for Computational Linguistics (**ACL Findings**)
- 2021 BanditMTL: Bandit-based Multi-task Learning for Text Classification  
Yuren Mao, **Zekai Wang**, Weiwei Liu, Xuemin Lin, Wenbin Hu  
Annual Meeting of the Association for Computational Linguistics (**ACL**)
- Accelerating Mems Design Process Through Machine Learning from Pixelated Binary Images  
Ruiqi Guo, Renxiao Xu, **Zekai Wang**, Fanping Sui, Liwei Lin  
International Conference on Micro Electro Mechanical Systems (**MEMS**)

### Journal Proceedings

- 2023 Task Variance Regularized Multi-Task Learning  
Yuren Mao, **Zekai Wang**, Weiwei Liu, Xuemin Lin, Wenbin Hu  
IEEE Transactions on Knowledge and Data Engineering (**TKDE**)
- 2022 Deep learning for non-parameterized MEMS structural design  
Ruiqi Guo, Fanping Sui, Wei Yue, **Zekai Wang**, Sedat Pala, Kunying Li, Renxiao Xu, Liwei Lin  
Microsystems & Nanoengineering

### Workshop Proceedings

- 2022 Robustness Verification Framework for Self-supervised Contrastive Learning  
**Zekai Wang**, Weiwei Liu  
ICML Workshop on Formal Verification of Machine Learning (**WFMV**)

## GRANTS AND AWARDS

### Honors and Scholarships

- 2024 Outstanding Graduate, School of Computer Science & Wuhan University
- 2023 China National Scholarship (**top 1%**)
- 2023 Academic Excellence Scholarship, First Class, Wuhan University
- 2023 Outstanding Graduate Student, Wuhan University
- 2022, 24 Academic Innovation Scholarship, Wuhan University
- 2020 “Daoyu Liu” University President Scholarship, Wuhan University
- 2018–2020 Scholarship of Wuhan University & Advanced Individual

### Projects and Competitions

- 2019–2021 Planning Project of Innovation and Entrepreneurship Training of National Undergraduate, Team Leader
- 2020 Chinese Undergraduate IoT Design Competition, Provincial First Prize
- 2018–2020 Chinese Undergraduate Computer Design Contest, National Prize

## ACADEMIC SERVICES

Reviewer of TPAMI, IJCV, TNNLS, NeurIPS, ICML, ICLR, AAAI, IJCAI