Jing Wu

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Research Interest

My work mostly contributes to the fields of trustworthy machine learning and responsible AI. My research mainly focuses on the analysis of the vulnerabilities of deep learning models, and developing algorithms for enhancing safety and reliability by defending against attacks and mitigating inappropriate influence in AI systems. My long-term research objective is to make AI systems safe, reliable, and unbias, as AI increasingly becomes a part of our daily lives, its safety and reliability must be paramount considerations prior to deployment.

EDUCATION

Monash University Doctor of Philosophy in Electrical and Computer Systems Engineering	Melbourne, Australia Aug. 2021 – Present
Advisors: A/Prof. Mehrtash Harandi and Dr. Munawar Hayat.	g. Now
University of Electronic Science and Technology of China Master in Electronics and Communication Engineering GPA: 3.79/4.0	Chengdu, China Sept. 2017 – June. 2020
Saitama University Exchange student funded by Chinese Scholarship Council	Saitama, Japan Sept. 2015 – Mar. 2016
Nanjing University of Information Science and Technology Bachelor in Electronic Information Engineering (rank 1st in major) GPA: 4.12/5.0	Nanjing, China Sept. 2013 – June. 2017
Work Experience	
Assistant Lecturer Monash University - Fixed-term (PhD Teaching Fellow) employment Sessional Teaching Associate Monash University Research Assistant University of Electronic Science and Technology of China Research Intern Megvii Technology Co.,Ltd.	Jan. 2024 – present Melbourne, Australia July. 2022 – Dec. 2023 Melbourne, Australia Aug. 2020 – July. 2021 Chengdu, China July. 2019 – Mar. 2020 Chengdu, China

Selected Publications and Preprint

Jing Wu and Mehrtash Harandi. Machine Unlearning via Nash Bargaining. arXiv preprint arXiv:2411.15537 (2024).

Jing Wu, Trung Le, Munawar Hayat, Mehrtash Harandi. EraseDiff: Erasing Data Influence in Diffusion Models. arXiv preprint arXiv:2401.05779 (2024).

Chengyao Qian, **Jing Wu**, Trung Le, Dinh Phung, Mehrtash Harandi. SUN: Training-free Machine Unlearning via Subspace. Preprint.

Jing Wu and Mehrtash Harandi. Scissorhands: Scrub Data Influence via Connection Sensitivity in Networks. The 18th European Conference on Computer Vision (ECCV) 2024. (CORE A^*)

Jing Wu, Munawar Hayat, Mingyi Zhou. and Mehrtash Harandi. Concealing Sensitive Samples against Gradient Leakage in Federated Learning. Proceedings of the AAAI Conference on Artificial Intelligence (AAAI). 2024. (CORE A^*)

Mingyi Zhou, Xiang Gao, **Jing Wu**, et al. Investigating White-Box Attacks for On-Device Models. 46th International Conference on Software Engineering (ICSE) 2024. (CORE A^*)

Xianggang Li, **Jing Wu**, et al. Analyzing the pregnancy status of giant pandas with hierarchical behavioral information. Expert Systems with Applications 237, 121462, 2024. (JCR Q1)

Mingyi Zhou*, **Jing Wu***, et al. DaST: Data-free Substitute Training for Adversarial Attacks. Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR). 2020. (*Equal contribution, Oral, CORE A*)

ECE4179/5179/6179 - Neural networks and deep learning: S2 2024, S2 2023, S2 2022 - Design content (problem sets for the workshop and assignments, etc.), deliver the lab content and grade assignments.

Jan. 2021 – Dec. 2022

Grant: 200.000 CNY

ECE4076/5176 - Computer vision: S1 2024, S1 2023 - Design content (problem sets for the workshop and assignments, etc.), deliver the lab content and grade assignments.

ENG5001/6001 - Advanced engineering data analysis: S1 2023 - Design and deliver the lab content.

Grant

Analysis of giant panda's prenatal behavior video

Chengdu Research Base of Giant Panda Breeding Collaboration

My Roles:

- Help construct the definition of hierarchical behaviors and guide students to annotate the collected video.
- Design the pregnancy analysis model.
- Supervise Master students for algorithm implementation.
- Write and revise the paper.

PROFESSIONAL SERVICE ACTIVITIES

Program Committee: AAAI Conference on Artificial Intelligence (AAAI)

Conference Reviewer:

- International Conference on Learning Representations (ICLR)
- Neural Information Processing Systems (NeurIPS)
- International Conference on Machine Learning (ICML)
- Conference on Computer Vision and Pattern Recognition (CVPR)
- International Conference on Computer Vision (ICCV)
- European Conference on Computer Vision (ECCV)
- ACM Multimedia (ACM MM)
- International Conference on Artificial Intelligence and Statistics (AISTATS)

Journal Reviewer:

- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- IEEE Transactions on Emerging Topics in Computational Intelligence

Advising

Setareh Dehghanfard, Undergraduate student at University of Tehran - Identity Unlearning

Ghazal Mousavi, Undergraduate student at University of Tehran - Identity Unlearning

Chern Khing Boey, Undergraduate student at Monash University - Graphic model of human brain connectome

Shiqi Lin, Undergraduate student at Monash University - Image Detection

Shiyu Feng, Master student at UESTC - AI security

Jingjing Hou, Master student at UESTC - AI security

Jinfeng Xu, Master student at UESTC - AI security

Ziruo Hao, Undergraduate student at UESTC - AI security

SKILLS

Language: Mandarin (native), English (fluent)

Programming languages and frameworks: Python, MATLAB, Pytorch

Typesetting: Latex, Markdown