

WEI WEI

Department of Electrical and Computer Engineering
Northwestern University
Evanston, Illinois, USA, 60208
Email: wwzjer@u.northwestern.edu
Website: <https://wwzjer.github.io/>

EDUCATION

2022	Northwestern University Ph.D. in Electrical Engineering Advisor: Prof. Ying Wu	<i>Evanston, IL</i>
2018	Xi'an Jiaotong University M.S. in Statistics Advisor: Prof. Zongben Xu, Prof. Deyu Meng	<i>Xi'an, China</i>
2015	Xi'an Jiaotong University B.S. in Mathematics Elite Class	<i>Xi'an, China</i>
2013	University of Connecticut Visiting student in Department of Mathematics	<i>Storrs, CT</i>

RESEARCH INTERESTS

- ☐ Computer Vision
- ☐ Machine Learning
- ☐ Trustworthy AI

PROFESSIONAL EXPERIENCE

2018.09-present	Northwestern University Research Assistant at Computational Vision Lab. Advisor: Prof. Ying Wu.	<i>Evanston, IL</i>
2020.06-2020.09	Wormpex AI Research Research Intern at AI Research Institute. Mentor: Dr. Gang Hua.	<i>Bellevue, WA</i>
2019.06-2019.09	Horizon Robotics Inc. Research Intern at General AI Lab. Mentor: Dr. Haonan Yu, Dr. Haichao Zhang and Dr. Wei Xu.	<i>Cupertino, CA</i>

2015.08-2018.07 Xi'an Jiaotong University *Xi'an, China*
Research Assistant at Machine Learning Group.
Advisor: Prof. Deyu Meng.

PUBLICATIONS

Google Citation

<https://scholar.google.com/citations?user=BlApk24AAAAAJ&hl=en>

Under Review

- 2022 **Wei Wei**, Jiahuan Zhou and Ying Wu, “Beyond Empirical Risk Minimization: Local Structure Preserving Regularization for Improving Adversarial Robustness.” Submitted to *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.
- 2022 Jiahuan Zhou*, **Wei Wei***(co-first author), Ying Wu, and Yuxin Peng, “ALUM: Adversarial Data Uncertainty Modeling from Latent Model Uncertainty Compensation.” Submitted to *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.

Published Papers

- 2022 Mingfu Liang, Jiahuan Zhou, **Wei Wei**, Ying Wu, “Balancing between Forgetting and Acquisition in Incremental Subpopulation Learning.” *European Conference on Computer Vision (ECCV)*, 2022.
- 2021 Lixuan Yi, Qian Zhao, **Wei Wei**, Zongben Xu. “Robust online rain removal for surveillance videos with dynamic rains.” *Knowledge-Based Systems*, 2021.
- 2021 Lei Fan, Peixi Xiong, **Wei Wei**, and Ying Wu, “FLAR: A Unified Prototype Framework for Few-sample Lifelong Active Recognition.” *IEEE International Conference on Computer Vision (ICCV)*, 2021.
- 2019 **Wei Wei**, Deyu Meng, Qian Zhao, Zongben Xu and Ying Wu. “Semi-supervised Transfer Learning for Image Rain Removal.” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.
- 2018 Minghan Li, Qi Xie, Qian Zhao, **Wei Wei**, Shuhang Gu, Jing Tao and Deyu Meng. “Video Rain Streak Removal By Multiscale Convolutional Sparse Coding.” *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018.
- 2017 **Wei Wei**, Liyuan Yi, Qi Xie, Qian Zhao, Deyu Meng and Zongben Xu. “Should We Encode Rain Streaks in Video as Deterministic or Stochastic?” *IEEE International Conference on Computer Vision (ICCV)*, 2017.

Reports and Working Papers

- 2021 **Wei Wei**, Hao Kang, Li Guan, Yue Liu, Haoxiang Li, Ying Wu, Gang Hua. “Beyond Visual Attractiveness: Physically Plausible Single Image HDR Reconstruction.” *arXiv preprint arXiv:2103.12926*, 2021.

2021 **Wei Wei**, Haonan Yu, Haichao Zhang, Wei Xu and Ying Wu. “MetaView: Learning to View 3D Objects from Few Samples.” *arXiv preprint arXiv:2103.04242*, 2021.

RESEARCH PROJECTS

- ☐ **Ford-URP Program** 2019.09-2022.08
Title: Visual Occupant Sensing and Action Understanding for Proactive Passenger Safety
Role: Project Leader, cooperating with Ford Motor Inc. and Purdue University
- 2D human pose estimation
 - Domain transfer in 2D human pose estimation
 - 3D human pose estimation and tracking
 - Classifying various human size types
 - Understanding basic human status and actions
 - System Integration

TALKS

2017 “Should We Encode Rain Streaks in Video as Deterministic or Stochastic?”
Valse: Vision And Learning SEminar (<http://valser.org/>). 2017.10.18.

SERVICE

Conference Reviewer

- ☐ IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), 2019~2023
- ☐ IEEE Int’l Conf. on Computer Vision (ICCV), 2019,2021
- ☐ European Conf. on Computer Vision (ECCV), 2020,2022
- ☐ International Conference on Learning Representations (ICLR), 2021~2023
- ☐ Neural Information Processing Systems (NeuIPS), 2021~2022
- ☐ International Conference on Machine Learning (ICML), 2022
- ☐ Association for the Advancement of Artificial Intelligence (AAAI), 2020
- ☐ IEEE International Conference on Multimedia and Expo (ICME), 2020
- ☐ IEEE Winter Conference on Applications of Computer Vision (WACV), 2021~2022
- ☐ Asian Conference on Computer Vision (ACCV), 2020

Journal Reviewer

- ☐ IEEE Access
- ☐ IEEE Signal Processing Letters (SPL)

TEACHING EXPERIENCE

- | | |
|-----------|--|
| Fall 2022 | ECE-332: Introduction to Computer Vision.
Teaching Assistant.
Northwestern University. |
| Fall 2016 | Advanced Mathematical Statistics.
Teaching Assistant.
Xi'an Jiaotong University. |

FELLOWSHIPS, AWARDS

- | | |
|------|--|
| 2022 | Terminal Year Fellowship, Northwestern University |
| 2018 | The Murphy Fellowship, Northwestern University |
| 2018 | Excellent Graduate Award, Xi'an Jiaotong University |
| 2017 | Philip K H Wong Foundation Fellowship, Xi'an Jiaotong University |
| 2012 | Siyuan Fellowship, Xi'an Jiaotong University |

Updated December 2022