Jialian Wu

CSE Department, State University of New York at Buffalo, Buffalo, NY, USA
Email: jialianw@buffalo.edu. Tel: 1-716-817-3169. Homepage: https://jialianwu.com

EDUCATION

Doctor of Philosophy, State University of New York at Buffalo, USA *Aug 2019 - 2023 (Expected)*
Computer Science and Engineering
Advisor: Dr. Junsong Yuan
GPA: 3.9/4.0

Graduate Study, Tianjin University, China *Sept 2018 - July 2019*
M.Eng. in Electronic Engineering
Left for University at Buffalo in July 2019 before finishing my degree

Bachelor of Engineering, Tianjin University, China *Sept 2014 - July 2018*
Electronic Engineering
GPA: 3.85/4.0 (90.94/100), Top 5%
Thesis: Multi-level Feature Fusion Network for Object Detection. (Outstanding Bachelor Thesis)

RESEARCH INTEREST

Object-centric video analysis including detection, segmentation, and tracking. I am also open to explore other interesting research topics in computer vision field.

RESEARCH

First-author Research:

1. **Jialian Wu**, Sudhir Yarram, Hui Liang, Tian Lan, Junsong Yuan, Jayan Eledath, and Gerard Medioni, "Efficient Video Instance Segmentation via Tracklet Query and Proposal", in *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (**CVPR**), 2022. [Project Page] [PDF]

2. **Jialian Wu**, Jiale Cao, Liangchen Song, Yu Wang, Ming Yang, and Junsong Yuan, "Track to Detect and Segment: An Online Multi-Object Tracker", in *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (**CVPR**), 2021. [Project Page] [PDF] [Code] (450 GitHub Stars)

3. **Jialian Wu**, Liangchen Song, Qian Zhang, Ming Yang, and Junsong Yuan, "ForestDet: Large-Vocabulary Long-Tailed Object Detection and Instance Segmentation", in *IEEE Transactions on Multimedia* (**TMM**), 2021. [PDF] [Code]

4. **Jialian Wu**, Chunluan Zhou, Ming Yang, Qian Zhang, Yuan Li, and Junsong Yuan, "Temporal-Context Enhanced Detection of Heavily Occluded Pedestrians", in *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (**CVPR**), 2020. [PDF]

5. **Jialian Wu**, Liangchen Song, Tiancai Wang, Qian Zhang, and Junsong Yuan, "Forest R-CNN: Large-Vocabulary Long-Tailed Object Detection and Instance Segmentation", in *Proceedings of the ACM International Conference on Multimedia* (**ACM MM**), 2020. [PDF] [Code]

6. **Jialian Wu**, Chunluan Zhou, Qian Zhang, Ming Yang, and Junsong Yuan, "Self-Mimic Learning for Small-scale Pedestrian Detection", in *Proceedings of the ACM International Conference on Multimedia* (**ACM MM**), 2020. [PDF]

Second-author Research:

7. Sudhir Yarram, **Jialian Wu**, Pan Ji, Yi Xu, and Junsong Yuan, "Deformable VisTR : Spatio Temporal Deformable Attention for Video Instance Segmentation", in *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing* (**ICASSP**), 2022.

8. Liangchen Song, **Jialian Wu**, Ming Yang, Qian Zhang, Yuan Li, and Junsong Yuan, "Stacked Homography Transformations for Multi-View Pedestrian Detection", in *Proceedings of the IEEE International Conference on Computer Vision* (**ICCV**), 2021. **(Oral)** [PDF]

9. Liangchen Song, **Jialian Wu**, Ming Yang, Qian Zhang, Yuan Li, and Junsong Yuan, "Handling Difficult Labels for Multi-label Image Classification via Uncertainty Distillation", in *Proceedings of the ACM International Conference on Multimedia* (**ACM MM**), 2021. [PDF]

10. Liangchen Song, **Jialian Wu**, Ming Yang, Qian Zhang, Yuan Li, and Junsong Yuan, "Robust Knowledge Transfer via Hybrid Forward on the Teacher-Student Model", in *Proceedings of the AAAI Conference on Artificial Intelligence* (**AAAI**), 2021. [PDF]

INDUSTRY RESEARCH EXPERIENCE

Research Intern, Microsoft Research May 2021 - Aug 2021
Azure AI Team *Redmond, WA, USA*

Mentors: Dr. Jianfeng Wang, Dr. Zhe Gan, Dr. Lijuan Wang, Dr. Zhengyuan Yang

Applied Scientist Intern, Amazon May 2021 - Aug 2021
Amazon Go Team, Mentors: Dr. Tian Lan, Dr. Hui Liang *Seattle, WA, USA*

- *Video Instance Segmentation:* **EfficientVIS**(CVPR 2022) [Project Page]

Research Intern, Horizon Robotics May 2020 - Aug 2020
Autonomous Driving Perception Team, Mentor: Dr. Yu Wang *Cupertino, CA, USA*

- *Multi-Object Tracking:* **TraDeS**(CVPR 2021) [Project Page]; 450 GitHub stars; SOTA performance on 4 tasks, 6 datasets.

Research Intern, Horizon Robotics May 2018 - Aug 2018
Mentor: Dr. Qian Zhang *Beijing, China*

- *Pedestrian Detection:* **TFAN**(CVPR 2020) [PDF], and **SML**(ACM MM 2020) [PDF]

AWARDS & HONORS

1. Best CSE First Year Achiever Award, State University of New York at Buffalo, 2020.
2. Outstanding Bachelor Thesis, Tianjin University, 2018.
3. First-class Entrance Fellowship, Tianjin University, 2018.
4. Tianjin City Fellowship, 2016.
5. Merit Student Fellowship, Tianjin University, 2015/2016/2017

PROFESSIONAL SERVICES

Conference Reviewer: CVPR 2020/2021(outstanding reviewer)/2022, ICCV 2021, ECCV 2022, AAAI 2021/2022, IJCAI 2021/2022, WACV 2021/2022, ICASSP 2021/2022, ACCV 2020, ICPR 2022

Journal Reviewer: IEEE Transactions on Image Processing, IEEE Transactions on Multimedia, IEEE Transactions on Circuits and Systems for Video Technology, Neurocomputing, Machine Vision and Applications

Teaching Assistant:

- CSE573: Computer Vision and Image Processing, Fall 2019.
- CSE191: Discrete Structures, Spring 2020.

COMPUTER SKILLS

Python, PyTorch, MXNET, Linux, etc