

Jialian Wu

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Previous Experience

Research Scientist, AMD GenAI
Research on Large Language Models

April 2024 - Present
Bellevue, WA, USA

Education

Doctor of Philosophy, State University of New York at Buffalo, USA
Computer Science and Engineering
Advisor: Dr. [Junsong Yuan](#)
Best Graduate Research Award, Best First Year Achiever Award
Thesis: Language and Context Guided Object Analysis in Images and Videos

Aug 2019 - June 2023

Graduate Study, Tianjin University, China
M.Eng. in Information and Communication Engineering
Left for University at Buffalo in Aug 2019 before finishing my degree

Sept 2018 - July 2019

Bachelor of Engineering, Tianjin University, China
Electronic Information Engineering
GPA: 3.85/4.0
Thesis: Multi-level Feature Fusion Network for Object Detection. (Outstanding Bachelor Thesis)

Sept 2014 - July 2018

Publications

- Jialian Wu**, Jianfeng Wang, Zhengyuan Yang, Zhe Gan, Zicheng Liu, Junsong Yuan, and Lijuan Wang, “GRiT: A Generative Region-to-text Transformer for Object Understanding”, in *European Conference on Computer Vision (ECCV)*, 2024. [\[PDF\]](#) [\[Code\]](#) [\[Demo\]](#) (300+ **GitHub Stars**)
- 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 *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022. [\[PDF\]](#) [\[Demo\]](#)
- Jialian Wu**, Jiale Cao, Liangchen Song, Yu Wang, Ming Yang, and Junsong Yuan, “Track to Detect and Segment: An Online Multi-Object Tracker”, in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021. [\[PDF\]](#) [\[Code\]](#) [\[Demo\]](#) (500+ **GitHub Stars**)
- 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. [\[PDF\]](#) [\[Code\]](#)
- Jialian Wu**, Chunlun Zhou, Ming Yang, Qian Zhang, Yuan Li, and Junsong Yuan, “Temporal-Context Enhanced Detection of Heavily Occluded Pedestrians”, in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020. [\[PDF\]](#)
- Jialian Wu**, Liangchen Song, Tiancai Wang, Qian Zhang, and Junsong Yuan, “Forest R-CNN: Large-Vocabulary Long-Tailed Object Detection and Instance Segmentation”, in *ACM International Conference on Multimedia (ACM MM)*, 2020. [\[PDF\]](#) [\[Code\]](#)
- Jialian Wu**, Chunlun Zhou, Qian Zhang, Ming Yang, and Junsong Yuan, “Self-Mimic Learning for Small-scale Pedestrian Detection”, in *ACM International Conference on Multimedia (ACM MM)*, 2020. [\[PDF\]](#)

8. Sudhir Yarram, **Jialian Wu**, Pan Ji, Yi Xu, and Junsong Yuan, “Deformable VisTR: Spatio Temporal Deformable Attention for Video Instance Segmentation”, in *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2022. [\[PDF\]](#)
9. Junyi Liu, Esha Naidu, **Jialian Wu**, Shira Gabriel, Edward Steinfeld, and Junsong Yuan, “Personalized Prediction of Indoor Comfort Using Graph Convolutional Matrix Completion”, in *IEEE 5th International Conference on Multimedia Information Processing and Retrieval (MIPR)*, 2022. [\[PDF\]](#)
10. Liangchen Song, **Jialian Wu**, Ming Yang, Qian Zhang, Yuan Li, and Junsong Yuan, “Stacked Homography Transformations for Multi-View Pedestrian Detection”, in *IEEE International Conference on Computer Vision (ICCV)*, 2021. [\(Oral\)](#) [\[PDF\]](#)
11. 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 *ACM International Conference on Multimedia (ACM MM)*, 2021. [\[PDF\]](#)
12. 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 *AAAI Conference on Artificial Intelligence (AAAI)*, 2021. [\[PDF\]](#)

Previous Experience

- | | |
|---|---|
| Computer Vision Researcher, Qualcomm
<i>Vision and Language Research</i> | June 2023 - April 2024
<i>San Diego, CA, USA</i> |
| Applied Scientist Intern, Amazon
<i>Amazon Go Team, Mentors: Dr. Tian Lan, Dr. Hui Liang</i> | Aug 2022 - Oct 2022
<i>Seattle, WA, USA</i> |
| · <i>Project: Weakly Supervised Video Instance Segmentation</i> | |
| Research Intern, Microsoft
<i>Microsoft Azure AI Team</i> | May 2022 - Aug 2022
<i>Redmond, WA, USA</i> |
| Mentors: Dr. Jianfeng Wang, Dr. Zhe Gan, Dr. Lijuan Wang, Dr. Zhengyuan Yang, Dr. Zicheng Liu
<i>Project: Multimodal Object Understanding with Language - GRiT [Demo] (arxiv'22) (250+ GitHub Stars)</i> | |
| Applied Scientist Intern, Amazon
<i>Amazon Go Team, Mentors: Dr. Tian Lan, Dr. Hui Liang</i> | May 2021 - Aug 2021
<i>Seattle, WA, USA</i> |
| · <i>Project: Video Instance Segmentation - EfficientVIS [Demo] (CVPR'22)</i> | |
| Research Intern, Horizon Robotics
<i>Autonomous Driving Perception Team, Mentor: Dr. Yu Wang</i> | May 2020 - Aug 2020
<i>Cupertino, CA, USA</i> |
| · <i>Project: Multi-Object Tracking - TraDeS [Demo] (CVPR'21) (500+ GitHub Stars)</i> | |
| Research Intern, Horizon Robotics
Mentor: Dr. Qian Zhang | May 2018 - July 2019
<i>Beijing, China</i> |
| · <i>Project: Occluded and Small Pedestrian Detection - TFAN (CVPR'20), and SML (MM'20)</i> | |

AWARDS & HONORS

1. [Best Graduate Research Award](#), CSE department, State University of New York at Buffalo, 2022.
2. [Best First Year Achiever Award](#), CSE department, State University of New York at Buffalo, 2020.
3. Outstanding Bachelor Thesis, Tianjin University, 2018.
4. Tianjin City Fellowship, 2016.

5. Merit Student Fellowship, Tianjin University, 2015/2016/2017

Professional Services

Conference Reviewer: CVPR 2020/2021/2022/2024/2025, ICLR 2024/2025, ICML 2024, NeurIPS 2023, ICCV 2021/2023, ECCV 2022/2024, AAAI 2021/2022/2023, IJCAI 2021/2022, WACV 2021/2022, ICASSP 2021, etc

Journal Reviewer: IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Image Processing, IEEE Transactions on Multimedia, IEEE Transactions on Circuits and Systems for Video Technology, Neurocomputing, Machine Vision and Applications, Neurocomputing, The Visual Computer

Teaching Assistant:

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