

Jialian Wu

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Current Employment

AMD GenAI

San Jose, CA

Senior Research Scientist (Senior MTS)

June 2025 – Present

Research Scientist (MTS)

Apr 2024 – June 2025

Research and build open LLMs from scratch. **Core contributor for releases:**

- 1) **Instella-Long [Blog]**: a long-context language model trained with long-context continued pre-training, SFT, and short-context DPO, surpassing Qwen, Phi, and Gemma.
- 2) **Instella [Blog]**: a 3B language model pre-trained from scratch with 4T tokens, followed by SFT and DPO.
- 3) **AMD-OLMo [Blog]**: AMD's first billion-parameter language model trained from scratch with 1T tokens.

Education

Doctor of Philosophy, State University of New York at Buffalo, USA

Aug 2019 - June 2023

Computer Science and Engineering

Advisor: Dr. Junsong Yuan

Thesis: Language and Context Guided Object Analysis in Images and Videos

Awards: Best Graduate Research Award, Best First Year Achiever Award

Tianjin University, China

Bachelor in Electric Engineering, GPA: 3.85/4.0

Sept 2014 – July 2018

Master in Electric Engineering (Dropped)

Sept 2018 – July 2019

Selected Publications (Full List at [Google Scholar](#))

1. **Jialian Wu**, Jialian Wu, Jiang Liu, Sudhanshu Ranjan, Xiaodong Yu, Gowtham Ramesh, Prakamya Mishra, Zicheng Liu, et al. “Instella-Long: A Fully Open Language Model with Long-Context Capability”, [AMD Blog](#), 2025.
2. Jiang Liu, **Jialian Wu**, Xiaodong Yu, Prakamya Mishra, Sudhanshu Ranjan, Zicheng Liu, et al. “Instella: New State-of-the-art Fully Open 3B Language Models”, [AMD Blog](#), 2025.
3. Yufan Zhuang, Xiaodong Yu, **Jialian Wu**, Ximeng Sun, Ze Wang, Jiang Liu, Yusheng Su, Jingbo Shang, Zicheng Liu, Emad Barsoum, “Self-Taught Agentic Long Context Understanding”, in *Association for Computational Linguistics (ACL)*, 2025.
4. Samuel Schmidgall, Yusheng Su, Ze Wang, Ximeng Sun, **Jialian Wu**, Xiaodong Yu, Jiang Liu, Zicheng Liu, Emad Barsoum, “Agent Laboratory: Using LLM Agents as Research Assistants”, in *Conference on Empirical Methods in Natural Language Processing (EMNLP)*, *Findings*, 2025.
5. Prakamya Mishra, Jiang Liu, **Jialian Wu**, Xiaodong Yu, Zicheng Liu, Emad Barsoum, “TTT-Bench: A Benchmark for Evaluating Reasoning Ability with Simple and Novel Tic-Tac-Toe-style Games”, in *Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2025.
6. Jingyang Lin, **Jialian Wu**, Ximeng Sun, Ze Wang, Jiang Liu, Yusheng Su, Xiaodong Yu, Hao Chen, Jiebo Luo, Zicheng Liu, Emad Barsoum, “Unleashing Hour-Scale Video Training for Long Video-Language Understanding”, *arXiv*, 2025.
7. Ze Wang, Hao Chen, Benran Hu, Jiang Liu, Ximeng Sun, **Jialian Wu**, Yusheng Su, Xiaodong Yu, Emad Barsoum, Zicheng Liu, “Instella-T2I: Pushing the Limits of 1D Discrete Latent Space Image Generation”, *arXiv*, 2025.

8. Jiang Liu, **Jialian Wu**, Prakanya Mishra, Zicheng Liu, et al. “Introducing the First AMD 1B Language Models: AMD OLMo”, [AMD Blog](#), 2024.
9. **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.
10. **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.
11. **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.
12. **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.
13. 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)*, **Oral**, 2021.
14. 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.
15. 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.
16. **Jialian Wu**, Chunluan 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.
17. **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.
18. **Jialian Wu**, Chunluan 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.

Previous Experience

Research Scientist, Qualcomm
Multimodal Understanding in Videos

June 2023 - April 2024
San Diego, CA, USA

Applied Scientist Intern, Amazon
Amazon Go Team, Mentors: Dr. Tian Lan, Dr. Hui Liang
Project: Weakly Supervised Video Instance Segmentation

Aug 2022 - Oct 2022
Seattle, WA, USA

Research Intern, Microsoft
Microsoft Azure AI Team

May 2022 - Aug 2022
Redmond, WA, USA

Mentors: Dr. Jianfeng Wang, Dr. Zhe Gan, Dr. Lijuan Wang, Dr. Zhengyuan Yang, Dr. Zicheng Liu
Project: Multimodal Understanding at Region-level

Applied Scientist Intern, Amazon

Amazon Go Team, Mentors: Dr. Tian Lan, Dr. Hui Liang

May 2021 - Aug 2021

Seattle, WA, USA

- *Project: Video Instance Segmentation*

Research Intern, Horizon Robotics

Autonomous Driving Perception Team, Mentor: Dr. Yu Wang Dr. Ming Yang

May 2020 - Aug 2020

Cupertino, CA, USA

- *Project: Multi-Object Tracking*

Research Intern, Horizon Robotics

Mentor: Dr. Qian Zhang, Dr. Ming Yang

May 2018 - July 2019

Beijing, China

- *Project: Occluded and Small Pedestrian Detection*

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 2023/2025, 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.