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**, 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. 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", **NeurIPS (Spotlight)**, 2025.

4. 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", **ACL**, 2025.

5. 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", **EMNLP** *Findings*, 2025.

6. 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", **EMNLP**, 2025.

7. Jiang Liu, **Jialian Wu**, Prakamya Mishra, Zicheng Liu, et al. "Introducing the First AMD 1B Language Models: AMD OLMo", AMD Blog, 2024.

8. **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", **ECCV**, 2024.

9. **Jialian Wu**, Sudhir Yarram, Hui Liang, Tian Lan, Junsong Yuan, Jayan Eledath, and Gerard Medioni, "Efficient Video Instance Segmentation via Tracklet Query and Proposal", **CVPR**, 2022.

10. **Jialian Wu**, Jiale Cao, Liangchen Song, Yu Wang, Ming Yang, and Junsong Yuan, "Track to Detect and Segment: An Online Multi-Object Tracker", **CVPR**, 2021.

11. **Jialian Wu**, Liangchen Song, Qian Zhang, Ming Yang, and Junsong Yuan, "ForestDet: Large-Vocabulary Long-Tailed Object Detection and Instance Segmentation", **TMM**, 2021.

12. Liangchen Song, **Jialian Wu**, Ming Yang, Qian Zhang, Yuan Li, and Junsong Yuan, "Stacked Homography Transformations for Multi-View Pedestrian Detection", **ICCV (Oral)**, 2021.

13. Liangchen Song, **Jialian Wu**, Ming Yang, Qian Zhang, Yuan Li, and Junsong Yuan, "Handling Difficult Labels for Multi-label Image Classification via Uncertainty Distillation", **ACM MM**, 2021.

14. Liangchen Song, **Jialian Wu**, Ming Yang, Qian Zhang, Yuan Li, and Junsong Yuan, "Robust Knowledge Transfer via Hybrid Forward on the Teacher-Student Model", **AAAI**, 2021.

15. **Jialian Wu**, Chunluan Zhou, Ming Yang, Qian Zhang, Yuan Li, and Junsong Yuan, "Temporal-Context Enhanced Detection of Heavily Occluded Pedestrians", **CVPR**, 2020.

16. **Jialian Wu**, Liangchen Song, Tiancai Wang, Qian Zhang, and Junsong Yuan, "Forest R-CNN: Large-Vocabulary Long-Tailed Object Detection and Instance Segmentation", **ACM MM**, 2020.

17. **Jialian Wu**, Chunluan Zhou, Qian Zhang, Ming Yang, and Junsong Yuan, "Self-Mimic Learning for Small-scale Pedestrian Detection", **ACM MM**, 2020.

Previous Experience

Research Scientist, Qualcomm June 2023 - April 2024
Multimodal Understanding in Videos *San Diego, CA, USA*

Applied Scientist Intern, Amazon Aug 2022 - Oct 2022
Amazon Go Team, Mentors: Dr. Tian Lan, Dr. Hui Liang *Seattle, WA, USA*

· *Project: Weakly Supervised Video Instance Segmentation*

Research Intern, Microsoft May 2022 - Aug 2022
Microsoft Azure AI Team *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 May 2021 - Aug 2021
Amazon Go Team, Mentors: Dr. Tian Lan, Dr. Hui Liang *Seattle, WA, USA*

· *Project: Video Instance Segmentation*

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

· *Project: Multi-Object Tracking*

Research Intern, Horizon Robotics May 2018 - July 2019
Mentor: Dr. Qian Zhang, Dr. Ming Yang *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.