

YUNKE WANG

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QUALIFICATIONS

The University of Sydney (USYD)

Postdoctoral Research Associate; Advisor: Prof. Chang Xu

Sydney, Australia

Aug. 2024 – Present

Wuhan University (WHU)

Ph.D. in Artificial Intelligence; Advisor: Prof. Bo Du

Wuhan, China

Sept. 2019 – June 2024

Wuhan University (WHU)

B.Eng. in Computer Science

Wuhan, China

Sept. 2015 – June 2019

RESEARCH INTERESTS

Embodied AI, Generative Models, Computer Vision, Machine Learning

PUBLICATIONS

First-author papers

- [8] **Yunke Wang**, Chang Xu, Tianyu Guo, Bo Du, Dacheng Tao. “On Positive-Unlabeled Classification from Corrupted Data in GANs,” *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2025. CCF A
- [7] **Yunke Wang**, Yanxi Li, Chang Xu. “Position: AI Scaling: From Up to Down and Out,” *International Conference on Machine Learning (ICML)*, 2025. CCF A
- [6] **Yunke Wang**, Minjing Dong, Yukun Zhao, Chang Xu, Bo Du. “Imitation Learning from Purified Demonstrations,” *International Conference on Machine Learning (ICML)*, 2024. CCF A
- [5] **Yunke Wang**, Wenyuan Wang, Bo Du, Chang Xu. “Multi-Tailed Vision Transformer for Efficient Inference,” *Neural Networks*, 2024. CCF B
- [4] **Yunke Wang**, Xiyu Wang, Anh-Dung Dinh, Bo Du, Chang Xu. “Learning to Schedule in Diffusion Probabilistic Models,” *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 2023. CCF A
- [3] **Yunke Wang**, Bo Du, Chang Xu. “Unlabeled Imperfect Demonstrations in Adversarial Imitation Learning,” *AAAI Conference on Artificial Intelligence (AAAI)*, 2023. CCF A
- [2] **Yunke Wang**, Chang Xu, Bo Du, Honglak Lee. “Learning to Weight Imperfect Demonstrations,” *International Conference on Machine Learning (ICML)*, 2021. CCF A
- [1] **Yunke Wang**, Chang Xu, Bo Du. “Robust Adversarial Imitation Learning via Adaptively-Selected Demonstrations,” *International Joint Conference on Artificial Intelligence (IJCAI)*, 2021. CCF A at the year of publication

Other CCF-A/B papers

- [20] Laibin Chang, **Yunke Wang**, Longxiang Deng, Jiaying Huang, Bo Du, Chang Xu. “Marine Saliency Segmenter: Object-Focused Conditional Diffusion with Region-Level Semantic Knowledge Distillation.” *IEEE Transactions on Image Processing (TIP)*, 2026. CCF A
- [19] Laibin Chang, **Yunke Wang**, Bo Du, Chang Xu. “Color Correction Meets Cross-Spectral Refinement: A Distribution-Aware Diffusion for Underwater Image Restoration,” *IEEE Transactions on Multimedia (TMM)*, 2026. CCF A

- [18] Weiyang Xie, Qianchen Zeng, Zihan Meng, Jiajun Tian, Siboh He, Danian Yang, Jie Du, **Yunke Wang**, Daixun Li, Hengyi Wang, Jitao Ma, Leyuan Fang, Yunsong Li. “Towards Efficient Embodied Reasoning: Mixture-of-Depth Compute Allocation for Vision-Language-Action Model,”
ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2026. **CCF A**
- [17] Chenyu Hui, Xiaodi Huang, Siyu Xu, **Yunke Wang**, Shan You, Tao Huang, Chang Xu. “Seeing Realism from Simulation: Efficient Video Transfer for Vision-Language-Action Data Augmentation,”
International Conference on Machine Learning (ICML), 2026. **CCF A**
- [16] Xiangyu Zeng, Qi Xu, **Yunke Wang**, Chang Xu. “HiCI: Hierarchical Construction–Integration for Long-Context Attention,”
International Conference on Machine Learning (ICML), 2026. **CCF A**
- [15] Yixu Feng, Zinan Zhao, Yanxiang Ma, Chenghao Xia, Chengbin Du, **Yunke Wang**, Chang Xu. “See What Matters: Differentiable Grid Sample Pruning for Generalizable Vision-Language-Action Model,”
International Conference on Machine Learning (ICML), 2026. **CCF A**
- [14] Siboh He, Weiyang Xie, Daixun Li, Junhao Zhong, Jiayun Tian, **Yunke Wang**, Leyuan Fang, Gang He, Yunsong Li. “Motion Dynamics Learning for Few-Shot Embodied Adaptation,”
International Conference on Machine Learning (ICML), 2026. **CCF A**
- [13] Zixuan Huang, Yanxiang Ma, Luhan Wang, **Yunke Wang**, Duo Shi, Chang Xu. “Mitigating Legal Hallucinations via Symbolic Constraints and Analogical Precedents,”
Annual Meeting of the Association for Computational Linguistics (ACL), 2026. **CCF A**
- [12] Daixun Li, Zirui Li, Siboh He, Jiayun Tian, Mingxiang Cao, Weiyang Xie, **Yunke Wang**, Yusi Zhang, Yunsong Li, Chang Xu, Leyuan Fang. “GeoCoT: Towards Reliable Remote Sensing Reasoning with Manifold Perspective,”
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2026, Highlight. **CCF A**
- [11] Siyu Xu, Zijian Wang, **Yunke Wang**, Chenghao Xia, Tao Huang, Chang Xu. “Affordance Field Intervention: Enabling VLAs to Escape Memory Traps in Robotic Manipulation,”
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2026. **CCF A**
- [10] Enhuai Liu, **Yunke Wang**, Changming Sun, Chang Xu. “D2Cache: Second-Order Delta Caching for Higher Video Diffusion Acceleration,”
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2026. **CCF A**
- [9] Xiaohuan Pei, Yuxing Chen, Siyu Xu, **Yunke Wang**, Yuheng Shi, Chang Xu. “Action-aware Dynamic Pruning for Efficient Vision-Language-Action Manipulation,”
International Conference on Learning Representations (ICLR), 2026. **CCF A**
- [8] Rui Xu, **Yunke Wang**, Yong Luo, Bo Du. “Rethinking Visual Token Reduction in LVLMs under Cross-modal Misalignment,”
AAAI Conference on Artificial Intelligence (AAAI), 2026. **CCF A**
- [7] Siyu Xu, **Yunke Wang**, Chenghao Xia, Dihao Zhu, Tao Huang, Chang Xu. “VLA-Cache: Efficient Vision-Language-Action Manipulation via Adaptive Token Caching,”
Annual Conference on Neural Information Processing Systems (NeurIPS), 2025. **CCF A**
- [6] Daixun Li, Weiyang Xie, Mingxiang Cao, **Yunke Wang**, Yusi Zhang, Leyuan Fang, Yunsong Li, Chang Xu. “FusionSAM: Visual Multi-Modal Learning with Segment Anything Model,”
ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2025. **CCF A**
- [5] Laibin Chang, **Yunke Wang**, Longxiang Deng, Bo Du, Chang Xu. “WaterDiffusion: Learning a Prior-involved Unrolling Diffusion for Joint Underwater Saliency Detection and Visual Restoration,”
AAAI Conference on Artificial Intelligence (AAAI), 2025. **CCF A**
- [4] Siyu Xu, **Yunke Wang**, Daochang Liu, Bo Du, Chang Xu. “CollagePrompt: A Benchmark for Budget-Friendly Visual Recognition with GPT-4V”,
Findings of the Association for Computational Linguistics (NAACL), 2025. **CCF B**

- [3] Daixun Li, Weiyang Xie, Leyuan Fang, **Yunke Wang**, Mingxiang Cao, Jitao Ma, Yunsong Li, Chang Xu. “MM-Former: Multi-Modality Semi-Supervised Vision Transformer in Remote Sensing Imagery Classification,” *Neural Networks*, 2025. **CCF B**
- [2] Rui Xu, **Yunke Wang**, Lihua Zhang, Yong Luo, Shu Yang, Yihui Wang, Bo Du, Hao Chen. “Masked Diffusion Models for Unsupervised Anomaly Detection in Brain Images,” *IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, 2025. **CCF B**
- [1] Laibin Chang, **Yunke Wang**, Bo Du, Chang Xu. “Rectangling and Enhancing Underwater Stitched Image via Content-aware Warping and Perception Balancing,” *Neural Networks*, 2024. **CCF B**

HONORS & AWARDS

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|--|------------------|
| Gold Reviewer Award , ICML | May 2026 |
| EMCRs Training Scheme Award , University of Sydney | March 2026 |
| Academic Innovation Scholarship , Wuhan University | Nov. 2024 / 2023 |
| Outstanding Graduates , Wuhan University | June 2024 |
| National Scholarship , Ministry of Education (Top 1%) | Nov. 2023 |
| KDD-23 Student Travel Award , KDD | June 2023 |
| AAAI-23 Student Scholarship , AAAI | Jan. 2023 |
| First Prize Winner of China Graduate AI Innovation Competition (8/1174) | Dec. 2022 |
| Yisheng Ph.D Scholarship , Wuhan University | Dec. 2021 |

INVITED TALKS

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| “Vision-Language-Action Model: Bridging the Intelligence to the Physical World” <i>University of Sydney, 2026 S1 Deep Learning Class Week 1.</i> | Feb. 2026 |
| “Calibration of AI Models for Reliable Decision-Making” <i>Commonwealth Bank of Australia, Redfern Office, USYD-CommBank Workshop.</i> | Nov. 2025 |
| “Policy Learning in Diffusion Models” <i>University of Queensland, Brisbane City Campus, International Workshop on Weakly Supervised Learning.</i> | Nov. 2024 |
| “Imitation Learning from Imperfect Demonstrations” <i>“DiDi” Forum for Doctoral Students.</i> | Jun. 2023 |
| “Dynamic Neural Network in Vision Transformer” <i>University of Sydney, 2023 S1 Deep Learning Class Week 1.</i> | Feb. 2023 |
| “Deep Reinforcement Learning in Autonomous Driving” <i>In-Driving Co., Ltd.</i> | Oct. 2021 |
| “Imitation Learning from Imperfect Demonstrations” <i>Doctoral Innovation Forum on Artificial Intelligence in Central and Western China.</i> | Sep. 2021 |

GRANTS & FUNDING

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| Enabling VLA Assistive Robotics for the Future of Aged Care in Australia <i>ARC Linkage Projects, LP25 Round 2, The University of Sydney</i> Role: Co-CI (Ranked 3rd); Funding: AUD \$598,177. | 2026 |
| Last-link Automation in Daily Retail Operations <i>AEA Ignite Round 2, The University of Sydney</i> Role: Co-Lead Entrepreneur (Ranked 2nd); Funding: AUD \$484,498. | 2026 |
| AI Coding for Research Productivity: An EMCR Training Workshop <i>EMCRs Training Scheme, The University of Sydney</i> Role: Lead Applicant and Project Lead; Funding: AUD \$5,000. | 2026 |

Academic Leadership:

- Co-Lead of Green Computing Pillar, Net Zero Institute, The University of Sydney

Conference Organizer:

- Web Chair of ACM MM [CCF A/CORE A*], 2027
- Local Arrangement Chair of DICTA [Premier Conference on Computer Vision in Australia], 2026

Workshop Organizer:

- AI Coding for Research Productivity: An EMCR Training Workshop, The University of Sydney, 2026
- Workshop on Sustainable AI for the Future Web, The Web Conference [CCF A/CORE A*], 2025

Area Chair:

- NeurIPS

Conference Reviewer:

- NeurIPS, ICML, ICLR, CVPR, ICCV, ECCV, KDD, ACM MM, AAAI, IJCAI, ICRA, IROS, ICPR

Journal Reviewer:

- TPAMI, Artificial Intelligence, TIP, TMM, TKDE, TCSVT, RA-L, Neural Networks, Neurocomputing, PR-L

Guest Lecturer:

- USYD COMP 5329 Deep Learning (Week 8 - Sequential Modeling Architecture II, Week 9 - Multi-modal Foundation Model), 2026 S1
- USYD COMP 5329 Deep Learning (Week 7 - Transformer), 2025 S1
- USYD OCMP 5329 Deep Learning Online Course, 2025 S1/2025 S2/2026 S1
- USYD GenAI Summer/Winter School, 2024 S2/2025 S1/2025 S2/2026 S1

Teaching Assistant:

- Wuhan University, Introduction of Computer Networks, 2022 S1
- Wuhan University, Large-Scale Software Engineering, 2019 S1