Wenhan LUO, Ph.D., IEEE Senior Member

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WORKING EXPERIENCE

The Hong Kong University of Science and Technology — **Hong Kong**
- Associate Professor — Jun, 2024 – present

Sun Yat-sen University — **Shenzhen, China**
- Associate Professor — Jul, 2022 – Mar, 2024

Tencent — **Shenzhen, China**
- Senior Researcher — Mar, 2020 – Jul, 2022

Amazon — **Palo Alto, CA, USA**
- Research Scientist — Jul, 2019 – Jan, 2020

Tencent — **Shenzhen, China**
- Senior Researcher — Aug, 2016 – May, 2019

EDUCATION

Imperial College London — **London, UK**
- Ph.D. in Computer Science — Oct, 2012 – Jun, 2016

Institute of Automation, Chinese Academy of Sciences — **Beijing, China**
- M.E. in Control Theory and Control Engineering — Sep, 2009 – Jul, 2012

Huazhong University of Science and Technology — **Wuhan, China**
- B.E. in Automation — Sep, 2005 – Jul, 2009

RESEARCH INTERESTS

Creative AI, Generative Model, Computer Vision, Machine Learning

PUBLICATIONS

(† indicates correspondence, * indicates equal contribution)

1. Z. He, M. Yang, S. Yang, Y. Tang, T. Wang, K. Zhang, G. Chen, Y. Liu, J. Jiang, C. Guo, **W. Luo**†, MaterialMVP: Illumination-Invariant Material Generation via Multi-view PBR Diffusion, *Proc. of International Conference on Computer Vision (**ICCV**)*, 2025.
2. T. Wang, P. Xia, B. Li, P. Jiang, Z. Kong, K. Zhang, T. Lu, **W. Luo**†, MOERL: When Mixture-of-Experts Meet Reinforcement Learning for Adverse Weather Image Restoration, *Proc. of International Conference on Computer Vision (**ICCV**)*, 2025.
3. R. Guan, T. Liu, W. Tu, C. Tang, **W. Luo**, X. Liu, Sampling Enhanced Contrastive Multi-View Remote Sensing Data Clustering with Long-Short Range Information Mining, *IEEE Transactions on Knowledge and Data Engineering (**TKDE**)*, to appear.
4. M. Li, X. Long, Y. Liang, W. Li, Y. Liu, P. Li, **W. Luo**, W. Wang, Y. Guo, Multi-View Large Reconstruction Model via Geometry-Aware Positional Encoding and Attention, *IEEE Transactions on Visualization and Computer Graphics (**TVCG**)*, to appear.
5. X. Chen, Y. Li, H. Shi, B. Hu, **W. Luo**, Y. Wang, M. Zhang, VideoVista-CulturalLingo: 360° Horizons-Bridging Cultures, Languages, and Domains in Video Comprehension, *The 63rd Annual Meeting of the Association for Computational Linguistics (**ACL**)*, 2025.
6. Z. Kong, L. Li, Y. Zhang†, F. Gao, S. Yang, T. Wang, K. Zhang, Z. Kang, X. Wei, G. Chen, **W. Luo**†, DAM-VSR: Disentanglement of Appearance and Motion for Video Super-Resolution, ***ACM SIGGRAPH***, 2025.
7. P. Li, S. Ma, J. Chen, Y. Liu, C. Zhang, W. Xue, **W. Luo**, A. Sheffer, W. Wang, Y. Guo, ***ACM SIGGRAPH***, 2025.

8. Z. Jin, Y. Qiu, K. Zhang, H. Li, **W. Luo**†, MB-TaylorFormer V2: Improved Multi-branch Linear Transformer Expanded by Taylor Formula for Image Restoration, *IEEE Trans. on Pattern Analysis and Machine Intelligence (**TPAMI**)*, to appear.

9. T. Wang, K. Zhang, Y. Zhang, **W. Luo**†, B. Stenger, T. Lu, T. Kim, W. Liu, H. Li, LLDiffusion: Learning Degradation Representations in Diffusion Models for Low-Light Image Enhancement, *Pattern Recognition (PR)*, to appear.

10. Z. Ye, H. Huang†, X. Wang, P. Wan, D. Zhang, **W. Luo**†, StyleMaster: Stylize Your Video with Artistic Generation and Translation, *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (**CVPR**)*, 2025.

11. P. Li, W. Zheng, Y. Liu, T. Yu, Y. Li, X. Qi, X. Chi, S. Xia, Y. Cao, W. Xue, **W. Luo**, Y. Guo, PSHuman: Photorealistic Single-image 3D Human Reconstruction using Cross-Scale Multiview Diffusion and Explicit Remeshing, *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (**CVPR**)*, 2025.

12. X. Mao, Z. Jiang, F. Wang, J. Zhang, H. Chen, M. Chi, Y. Wang, **W. Luo**, OSV: One Step is Enough for High-Quality Image to Video Generation, *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (**CVPR**)*, 2025.

13. J. Xue, H. Wang, Q. Tian, Y. Ma, A. Wang, Z. Zhao, S. Min, W. Zhao, K. Zhang, H. Shum, W. Liu, M. Liu, **W. Luo**†, Towards Multiple Character Image Animation Through Enhancing Implicit Decoupling, *International Conference on Learning Representations (**ICLR**)*, 2025.

14. X. Qi, Y. Wang, H. Zhang, J. Pan, W. Xue, S. Zhang, **W. Luo**, Q. Liu, Y. Guo, Co^{3}Gesture: Towards Coherent Concurrent Co-speech 3D Gesture Generation with *Interactive Diffusion, International Conference on Learning Representations (**ICLR**)*, 2025.

15. Y. Li, S. Jiang, B. Hu, L. Wang, W. Zhong, **W. Luo**, L. Ma, M. Zhang, Uni-MoE: Scaling Unified Multimodal LLMs with Mixture of Experts, *IEEE Trans. on Pattern Analysis and Machine Intelligence (**TPAMI**)*, to appear.

16. P. Li, Y. Liu, X. Long, F. Zhang, C. Lin, M. Li, X. Qi, S. Zhang, **W. Luo**, P. Tan, W. Wang, Q. Liu, Y. Guo, Era3D: High-Resolution Multiview Diffusion using Efficient Row-wise Attention, *Neural Information Processing Systems (**NeurIPS**)*, 2024.

17. L. Li, P. Dong, Z. Tang, X. Liu, Q. Wang, **W. Luo**, W. Xue, Q. Liu, X. Chu, Y. Guo, Discovering Sparsity Allocation for Layer-wise Pruning of Large Language Models, *Neural Information Processing Systems (**NeurIPS**)*, 2024.

18. R. Li, J. Yu, C. Li, **W. Luo**, Y. Yuan, G. Wang, DREAM: Domain-agnostic Reverse Engineering Attributes of Black-box Model, *IEEE Transactions on Knowledge and Data Engineering (**TKDE**)*, vol. 36, pp. 8009-8022, 2024.

19. T. Zhou, Q. Ye, **W. Luo**, H. Ran, Z. Shi, J. Chen, APPTracker+: Displacement Uncertainty for Occlusion Handling in Low-Frame-Rate Multiple Object Tracking, *International Journal of Computer Vision (**IJCV**)*, vol. 133, pp. 2044–2069, 2025.

20. Z. Kong, W. Zhang, T. Wang, K. Zhang, Y. Li, X. Tang, **W. Luo**†, Dual Teacher Knowledge Distillation with Domain Alignment for Face Anti-spoofing, *IEEE Trans. on Circuits and Systems for Video Technology (TCSVT)*, vol. 34, pp. 13177-13189, 2024.

21. J. Tan, H. Park, Y. Zhang, T. Wang, K. Zhang, X. Kong, P. Dai, Z. Liu, **W. Luo**†, Blind Face Video Restoration with Temporal Consistent Generative Prior and Degradation-Aware Prompt, *The 32rd ACM International Conference on Multimedia (**ACM MM**)*, 2024.

22. Z. Kong, Y. Zhang, T. Yang, T. Wang, K. Zhang, B. Wu, G. Chen, W. Liu, **W. Luo**†, OMG: Occlusion-friendly Personalized Multi-concept Generation In Diffusion Models, *European Conference on Computer Vision (**ECCV**)*, 2024.

23. B. Tang, K. Zhang†, **W. Luo**†, W. Liu, H. Li, Prompting Future Driven Diffusion Model for Hand Motion Prediction, *European Conference on Computer Vision (**ECCV**)*, 2024.

24. L. Li, H. Sun, S. Li, P. Dong, **W. Luo**, W. Xue, Q. Liu, Y. Guo, Auto-GAS: Automated Proxy Discovery for Training-free Generative Architecture Search, *European Conference on Computer Vision (**ECCV**)*, 2024.

25. L. Li, Z. Wei, P. Dong, **W. Luo**, W. Xue, Q. Liu, Y. Guo, AttnZero: Efficient Attention Discovery for Vision Transformers, *European Conference on Computer Vision (**ECCV**)*, 2024.

26. L. Li, Y. Bao, P. Dong, C. Yang, A. Li, **W. Luo**, Q. Liu, W. Xue, Y. Guo, DetKDS: Knowledge Distillation Search for Object Detectors, *International Conference on Machine Learning (**ICML**)*, 2024.

27. J. Huang, Z. Wang, T. Liu, **W. Luo**, Z. Chen, W. Zhao, M. Wang, DeMPAA: Deployable Multi-Mini-Patch Adversarial Attack for Remote Sensing Image Classification, *IEEE Trans. on Geoscience and Remote Sensing*, vol. 62, pp. 1-13, 2024.

28. X. Chen, J. Tan, T. Wang, K. Zhang, **W. Luo**†, X. Cao, Towards Real-World Blind Face Restoration with Generative Diffusion Prior, *IEEE Trans. on Circuits and Systems for Video Technology (TCSVT)*, vol. 34, pp. 8494-8508, 2024.

29. T. Wang, K. Zhang, Z. Shao, **W. Luo**†, B. Stenger, T. Lu, T. Kim, W. Liu, H. Li, GridFormer: Residual Dense Transformer with Grid Structure for Image Restoration in Adverse Weather Conditions, *International Journal of Computer Vision (**IJCV**)*, vol. 132, pp. 4541–4563, 2024.

30. X. Qi, J. Pan, P. Li, R. Yuan, X. Chi, M. Li, **W. Luo**, W. Xue, S. Zhang, Q. Liu, Y. Guo, Weakly-Supervised Emotion Transition Learning for Diverse 3D Co-speech Gesture Generation, *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (**CVPR**)*, 2024.

31. Y. Shao, S. He, Q. Ye, Y. Feng, **W. Luo**, J. Chen, Context-Aware Integration of Language and Visual References for Natural Language Tracking, *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (**CVPR**)*, 2024.

32. Y. Li, B. Hu, **W. Luo**, L. Ma, Y. Ding, M. Zhang, A Multimodal In-Context Tuning Approach for E-Commerce Product Description Generation, *International Conference on Computational Linguistics (COLING)*, 2024.

33. Y. Gao, W. Zhang, **W. Luo**, L. Ma, J. Yu, G. Xia, J. Ma, Aux-NAS: Exploiting Auxiliary Labels with Negligibly Extra Inference Cost, *International Conference on Learning Representations (**ICLR**)*, 2024.

34. W. Wang, C. Du, T. Wang, K. Zhang, **W. Luo**†, L. Ma, W. Liu, X. Cao, Punctuation-level Attack: Single-shot and Single Punctuation Can Fool Text Models, *Neural Information Processing Systems (**NeurIPS**)*, 2023.

35. Y. Yu, P. Zhang, K. Zhang, **W. Luo**, C. Li, Y. Yuan, G. Wang, Multi-Prior Learning via Neural Architecture Search for Blind Face Restoration, *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, to appear.

36. J. Tan, X. Chen, T. Wang, K. Zhang, **W. Luo**†, X. Cao, Blind Face Restoration for Under-Display Camera via Dictionary Guided Transformer, *IEEE Trans. on Circuits and Systems for Video Technology (TCSVT)*, vol. 34, pp. 4914-4927, 2024.

37. K. Zhang, T. Wang, **W. Luo**†, W. Ren, B. Stenger, W. Liu, H. Li, M. Yang, MC-Blur: A Comprehensive Benchmark for Image Deblurring, *IEEE Trans. on Circuits and Systems for Video Technology (TCSVT)*, vol. 34, pp. 3755-3767, 2024.

38. T. Wang, G. Tao, W. Lu, K. Zhang, **W. Luo**, X. Zhang, T. Lu, Restoring Vision in Hazy Weather with Hierarchical Contrastive Learning, *Pattern Recognition*, vol. 145, pp. 109956, 2024.

39. T. Gao, Y. Wen, K. Zhang, J. Zhang, T. Chen, L. Liu, **W. Luo**, Frequency-oriented Efficient Transformer for All-in-one Weather-degraded Image Restoration, *IEEE Trans. on Circuits and Systems for Video Technology (TCSVT)*, vol. 34, pp. 1886-1899, 2024.

40. T. Zhou, Q. Ye†, **W. Luo**†, K. Zhang, Z. Shi, J. Chen, FnF Attack Adversarial Attack against Multiple Object Trackers by Inducing False Negatives and False Positives, *Proc. of International Conference on Computer Vision (**ICCV**)*, 2023.

41. P. Cheng, L. Lin, J. Lyu, Y. Huang, **W. Luo**, X. Tang, PRIOR: Prototype Representation Joint Learning from Medical Images and Reports, *Proc. of International Conference on Computer Vision (**ICCV**)*, 2023.

42. Y. Qiu, K. Zhang, C. Wang, **W. Luo**, H. Li, Z. Jin, MB-TaylorFormer: Mutil-branch Efficient Transformer Expanded by Taylor Formula for Image Dehazing, *Proc. of International Conference on Computer Vision (**ICCV**)*, 2023.

43. S. Wang, C. Nguyen, J. Liu, K. Zhang, **W. Luo**, Y. Zhang, S. Muthu, F. Maken, H. Li, Homography Guided Temporal Fusion for Road Line and Marking Segmentation, *Proc. of International Conference on Computer Vision (**ICCV**)*, 2023.

44. Y. Shao, Q. Ye, **W. Luo**, K. Zhang, J. Chen, InterTracker: Discovering and Tracking General Objects Interacting with Hands in the Wild, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2023.

45. Z. Song, Z. Zhang, K. Zhang, **W. Luo**†, Z. Fan, W. Ren and J. Lu, Robust Single Image Reflection Removal Against Adversarial Attacks, *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (**CVPR**)*, 2023.

46. Z. Kong, W. Zhang, F. Liu, **W. Luo**, H. Liu, L. Shen and R. Ramachandra, Taming Self-Supervised Learning for Presentation Attack Detection: De-Folding and De-Mixing, *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, vol. 35, pp. 10639-10650, 2024.

47. T. Wang, K. Zhang, T. Shen, **W. Luo**†, B. Stenger, T. Lu†, Ultra-High-Definition Low-Light Image Enhancement: A Benchmark and Transformer-Based Method, *Proc. of the Association for the Advancement of Artificial Intelligence (**AAAI**)*, 2023. (**Oral Presentation**)

48. H. Fang, P. Xiong, L. Xu, **W. Luo**†, Transferring Image-CLIP to Video-Text Retrieval via Temporal Relations, *IEEE Transactions on Multimedia (TMM)*, vol. 25, pp. 7772-7785, 2023.

49. L. Zheng, Y. Li, K. Zhang, **W. Luo**, T-Net: Deep Stacked Scale-Iteration Network for Image Dehazing, *IEEE Transactions on Multimedia (TMM)*, vol. 25, pp. 6794-6807, 2023.

50. Z. You, K. Yang, **W. Luo**, X. Lu, L. Cui, X. Le, Few-shot Object Counting with Similarity-Aware Feature Enhancement, *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2023.

51. T. Zhou, **W. Luo**, Z. Shi, J. Chen, Q. Ye, APPTracker: Improving Tracking Multiple Objects in Low-Frame-Rate Videos, *The 30th ACM International Conference on Multimedia (**ACM MM**)*, 2022.

52. K. Zhang, D. Li, **W. Luo**, J. Liu, J. Deng, W. Liu, S. Zafeiriou, EDFace-Celeb-1M: Benchmarking Face Hallucination with a Million-scale Dataset, *IEEE Trans. on Pattern Analysis and Machine Intelligence (**TPAMI**)*, vol. 45, pp. 3968-3978, 2023.

53. K. Zhang, W. Ren, **W. Luo**, W. Lai, B. Stenger, M. Yang, H. Li, Deep Image Deblurring: A Survey, *International Journal of Computer Vision (**IJCV**)*, vol. 130, pp. 2103-2130, 2022.

54. K. Zhang, **W. Luo**†, Y. Yu, W. Ren, F. Zhao, C. Li, L. Ma, W. Liu, H. Li, Beyond Monocular Deraining: Parallel Stereo Deraining Network Via Semantic Prior, *International Journal of Computer Vision (**IJCV**)*, vol. 130, pp. 1754-1769, 2022.

55. Y. Wang, Guo Pu, **W. Luo**, Y. Wang, P. Xiong, H. Kang, Z. Lian, Aesthetic Text Logo Synthesis via Content-aware Layout Inferring, *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (**CVPR**)*, 2022.

56. K. Zhang, D. Li, **W. Luo**, W. Ren, W. Liu, Enhanced Spatio-Temporal Interaction Learning for Video Deraining: A Faster and Better Framework, *IEEE Trans. on Pattern Analysis and Machine Intelligence (**TPAMI**)*, vol. 45, pp. 1287-1293, 2023.

57. K. Zhang, D. Li, **W. Luo**, W. Ren, B. Stenger, W. Liu, H. Li, M. Yang, Benchmarking Ultra-High-Definition Image Super-resolution, *Proc. of International Conference on Computer Vision (**ICCV**)*, 2021.

58. W. Niu, K. Zhang, **W. Luo**†, Y. Zhong, Blind Motion Deblurring Super-Resolution:

When Dynamic Spatio-Temporal Learning Meets Static Image. *IEEE Trans. on Image Processing (**TIP**)*, vol. 30, pp. 7101-7111, 2021.

59. K. Zhang, D. Li, **W. Luo**, W. Ren, Dual Attention-in-Attention Model for Joint Rain Streak and Raindrop Removal. *IEEE Trans. on Image Processing (**TIP**)*, vol. 30, pp. 7608-7619, 2021.

60. K. Zhang, R. Li, Y. Yu, **W. Luo**, C. Li, Deep Dense Multi-scale Network for Snow Removal Using Semantic and Geometric Priors. *IEEE Trans. on Image Processing (**TIP**)*, vol. 30, pp. 7419-7431, 2021.

61. R. Xia, Y. Li, **W. Luo**, LAGA-Net: Local-And-Global Attention Network for Skeleton Based Action Recognition, *IEEE Transactions on Multimedia (TMM)*, vol. 24, pp. 2648-2661, 2022.

62. F. Zhong, P. Sun, **W. Luo**, T. Yan, Y. Wang, Towards Distraction-Robust Active Visual Tracking, *International Conference on Machine Learning (**ICML**)*, 2021.

63. X. Zhang, R. Jiang, T. Wang and **W. Luo**, Single Image Dehazing via Dual-Path Recurrent Network, *IEEE Trans. on Image Processing (**TIP**)*, vol. 30, pp. 5211-5222, 2021.

64. W. Liu, Z. Piao, Z. Tu, **W. Luo**, L. Ma, and S. Gao, Liquid Warping GAN with Attention: A Unified Framework for Human Image Synthesis, *IEEE Trans. on Pattern Analysis and Machine Intelligence (**TPAMI**)*, vol. 44, pp. 5114-5132, 2022.

65. Y. Li, H. Tang, W. Xie, and W. Luo, Multidimensional Local Binary Pattern for Hyperspectral Image Classification, *IEEE Trans. on Geoscience and Remote Sensing (TGRS)*, vol. 60, pp. 1-13, 2022.

66. K. Zhang, **W. Luo**†, L. Ma, W. Ren, and H. Li, Disentangled Feature Networks for Facial Portraits Generation, *IEEE Transactions on Multimedia (TMM)*, vol. 24, pp. 1378-1388, 2022.

67. **W. Luo**, J. Xing, A. Milan, X. Zhang, W. Liu, and T-K. Kim, Multiple Object Tracking: A Literature Review, ***Artificial Intelligence***, vol. 293, pp. 103448, 2021.

68. X. Zhang, T. Wang, **W. Luo**, P. Huang, Multi-level Fusion and Attention-guided CNN for Image Dehazing, *IEEE Trans. on Circuits and Systems for Video Technology (TCSVT)*, vol. 31, pp. 4162-4173, 2021.

69. T. Wang, X. Zhang, R. Jiang, L. Zhao, H. Chen, **W. Luo**, Video Deblurring via Spatiotemporal Pyramid Network and Adversarial Gradient Prior, *Computer Vision and Image Understanding (CVIU)*, vol. 203, pp. 103135, 2021.

70. Z. Ren, **W. Luo**, J. Yan, X. Yang, A. Yuille, H. Zha, STFlow: Self-Taught Optical Flow Estimation Using Pseudo Labels, *IEEE Trans. on Image Processing (**TIP**)*, vol. 29, pp. 9113-9124, 2020.

71. T. Liu, **W. Luo**, L. Ma, J. Huang, T. Stathaki, T. Dai, Coupled Network for Robust Pedestrian Detection with Gated Multi-Layer Feature Extraction and Deformable Occlusion Handling, *IEEE Trans. on Image Processing (**TIP**)*, vol. 30, pp. 754-766, 2021.

72. K. Zhang, **W. Luo**, B. Stenger, W. Ren, L. Ma, H. Li, Every Moment Matters: Detail-Aware Networks to Bring a Blurry Image Alive, *The 28th ACM International Conference on Multimedia (**ACM MM**)*, 2020.

73. K. Zhang, **W. Luo**, W. Ren, J. Wang, F. Zhao, L. Ma, H. Li, Beyond Monocular Deraining: Stereo Image Deraining via Semantic Understanding, *European Conference on Computer Vision (**ECCV**)*, UK, 2020.

74. Z. Zhou, **W. Luo**, Q. Wang, J. Xing, W. Hu, Distractor-Aware Discrimination Learning for Online Multiple Object Tracking, *Pattern Recognition*, vol. 107, pp. 107512, 2020.

75. K. Zhang, **W. Luo**, Y. Zhong, L. Ma, B. Stenger, W. Liu, H. Li, Deblurring by Realistic Blurring, *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (**CVPR**)*, USA, 2020. (**Oral Presentation**)

76. W. Xiong, Y. He, Y. Zhang, **W. Luo**, L. Ma, J. Luo, Fine-grained Image-to-Image Transformation towards Visual Recognition, *Proc. of IEEE Conf. on Computer*

*Vision and Pattern Recognition (**CVPR**)*, USA, 2020.

77. F. Zhong, P. Sun, **W. Luo**, T. Yan, Y. Wang, AD-VAT+: An Asymmetric Dueling mechanism for learning and understanding Visual Active Tracking, *IEEE Trans. on Pattern Analysis and Machine Intelligence (**TPAMI**)*, vol. 43, pp. 1467-1482, 2021.

78. Z. Liu, **W. Luo**, B. Wu, X. Yang, W. Liu, K-T. Cheng, Bi-Real Net: Binarizing Deep Network Towards Real-Network Performance, *International Journal of Computer Vision (**IJCV**)*, vol. 128, pp. 202-219, 2020.

79. W. Liu, Z. Piao, J. Min, **W. Luo**, L. Ma, S. Gao, Liquid Warping GAN: A Unified Framework for Human Motion Imitation, Appearance Transfer and Novel View Synthesis, *Proc. of International Conference on Computer Vision (**ICCV**)*, Korea, 2019.

80. Z. Chen, L. Ma†, **W. Luo**†, K.-Y. K. Wong, Weakly-Supervised Spatio-Temporally Grounding Natural Sentence in Video, *The 57th Annual Meeting of the Association for Computational Linguistics (**ACL**)*, Italy, 2019. (**Oral Presentation**)

81. X. Yang*, **W. Luo***, L. Bao, Y. Gao, D. Gong, S. Zheng, Z. Li, W. Liu, Face Anti-Spoofing: Model Matters, So Does Data, *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (**CVPR**)*, USA, 2019.

82. K. Zhang, **W. Luo**, L. Ma, W. Liu, H. Li, Learning Joint Gait Representation via Quintuplet Loss Minimization, *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (**CVPR**)*, USA, 2019. (**Oral Presentation**)

83. J. Wan, **W. Luo**, B. Wu, A. Chan, W Liu, Residual Regression with Semantic Prior for Crowd Counting, *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (**CVPR**)*, USA, 2019.

84. K. Tang, H. Zhang, B. Wu, **W. Luo**, W. Liu, Learning to Compose Dynamic Tree Structures for Visual Contexts, *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (**CVPR**)*, USA, 2019. (**Oral Presentation, Best Paper Finalist**)

85. **W. Luo***, P. Sun*, F. Zhong*, W. Liu, T. Zhang and Y. Wang, End-to-end Active Object Tracking and Its Real-world Deployment via Reinforcement Learning, *IEEE Trans. on Pattern Analysis and Machine Intelligence (**TPAMI**)*, vol. 42, pp. 1317-1332, 2020.

86. F. Zhong, P. Sun, **W. Luo**, T. Yan, Y. Wang, AD-VAT: An Asymmetric Dueling mechanism for learning Visual Active Tracking, *International Conference on Learning Representations (**ICLR**)*, 2019.

87. K. Zhang, **W. Luo**†, L. Ma, H. Li, Cousin Network Guided Sketch Recognition via Latent Attribute Warehouse, *Proc. of the Association for the Advancement of Artificial Intelligence (**AAAI**)*, 2019. (**Spotlight Presentation**)

88. **W. Luo**, B. Stenger, X. Zhao, T-K. Kim, Trajectories as Topics: Multi-Object Tracking by Topic Discovery, *IEEE Trans. on Image Processing (**TIP**)*, vol. 28, no. 1, pp. 240-252, 2019.

89. K. Zhang, **W. Luo**, Y. Zhong, L. Ma, W. Liu, H. Li, Adversarial Spatio-Temporal Learning for Video Deblurring, *IEEE Trans. on Image Processing (**TIP**)*, vol. 28, no. 1, pp. 291-301, 2019.

90. Z. Liu, B. Wu, **W. Luo**, X. Yang, W. Liu, K-T. Cheng, Bi-Real Net: Enhancing the Performance of 1-bit CNNs with Improved Representational Capability and Advanced Training Algorithm, *European Conference on Computer Vision (**ECCV**)*, Germany, 2018.

91. **W. Luo***, P. Sun*, F. Zhong, W. Liu, T. Zhang and Y. Wang, End-to-end Active Object Tracking via Reinforcement Learning, *International Conference on Machine Learning (**ICML**)*, Sweden, 2018.

92. W. Xiong, **W. Luo**, L. Ma, W. Liu and J. Luo, Learning to Generate Time-Lapse Videos Using Multi-Stage Dynamic Generative Adversarial Networks. *IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2018.

93. H. Huang, H. Wang, **W. Luo**, L. Ma, W. Jiang, X. Zhu, Z. Li, W. Liu, Real-Time

Neural Style Transfer for Videos. *IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2017.

94. **W. Luo**, B. Stenger, X. Zhao, T-K. Kim. Automatic Topic Discovery for Multi-object Tracking. *Proc. of the Association for the Advancement of Artificial Intelligence (**AAAI**)*, 2015. (**Oral Presentation**)

95. **W. Luo**, T-K. Kim, B. Stenger, X. Zhao, R. Cipolla. Bi-label Propagation for Generic Multiple Object Tracking. *IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2014.

96. X. Zhao, T-K. Kim, **W. Luo**. Unified Face Analysis by Iterative Multi-Output Random Forests. *IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2014.

97. **W. Luo**, T-K. Kim. Generic Object Crowd Tracking by Multi-Task Learning. *British Machine Vision Conference (BMVC)*, 2013.

98. W. Hu, X. Zhou, W. Li, **W. Luo**, X. Zhang, S. Maybank. Active Contour-Based Visual Tracking by Integrating Colors, Shapes and Motions. *IEEE Trans. on Image Processing (**TIP**)*, vol. 22, no. 5, pp. 1778-1792, 2013.

99. W. Hu, X. Li, **W. Luo**, X. Zhang, S. Maybank, Z. Zhang. Single and Multiple Object Tracking Using Log-Euclidean Riemannian Subspace and Block-Division Appearance Model. *IEEE Trans. on Pattern Analysis and Machine Intelligence (**TPAMI**)*, vol. 34, no. 12, pp. 2420-2440, 2012.

100. **W. Luo**, X. Li, W. Li, W. Hu. Robust Visual Tracking via Transfer Learning. *IEEE International Conference on Image Processing (ICIP)*, 2011.

101. **W. Luo**, X. Zhang, Y. Liu, X. Li, W. Hu, W. Li. Efficient Block-division Model for Robust Multiple Object Tracking. *IEEE International Conference on Acoustics,Speech, and Signal Processing (ICASSP)*, 2011.

PROFESSIONAL SERVICE	**Associate Editor**: IEEE TIP (2025 - current), Neurocomputing (2024 - current), IET Computer Vision (2024 - current) **Guest Editor**: CVIU (Sep 2020 - Sep 2021) **Area Chair**: NeurIPS 2025, ACM MM 2025, ICML 2025, IJCAI 2025, IJCNN 2025, BMVC (2025, 2024) **Conference Organization/Service**: SIGGRAPH Asia 2025 (Conflict-of-Interest Coordinator), CVM 2025 (Workshop Chair) **Senior Program Committee**: IJCAI (2024, 2023, 2021), AAAI (2025, 2024, 2022) **Journal Reviewer**: TPAMI, TIP, CSUR, TNNLS, TMM, TCSVT, PR **Conference Reviewer**: ICML, NeurIPS, CVPR, ACL, ECCV, ICCV, BMVC, AAAI, IJCAI, ACM MM, WACV
TALKS	- Shenzhen University, hosted by Prof. Yanshan Li, Mar, 2025. - Shenzhen University, hosted by Prof. Xu Wang, Dec, 2024. - Zhejiang University, hosted by Prof. Qi Ye, Oct, 2024. - Southern University of Science and Technology, hosted by Prof. Feng Zheng, Jul, 2024. - Wuhan University, hosted by Prof. Guisong Xia, Apr, 2024 - Zhejiang University, hosted by Dr. Qi Ye, Jun, 2022. - Shenzhen University, hosted by Prof. Yanshan Li, Feb, 2022. - Beijing Institute of Technology, hosted by Prof. Changsheng Li, Jan, 2022. - Southern University of Science and Technology, hosted by Prof. Xiaoying Tang, Sep, 2020. - The Shenzhen Institutes of Advanced Technology, Chinese Academy of Science (CAS), hosted by Prof. Yun Zhang, Sep, 2018. - The Institute of Automation, Chinese Academy of Science, hosted by Prof. Weiming Hu, Aug, 2018.

- Graduate School of Shenzhen, Tsinghua University, hosted by Prof. Yujiu Yang, June, 2018.

PATENTS
- **W. Luo**, L. Bao, Y. Gao, W. Liu, Method and apparatus for generating negative sample of face recognition, and computer device, US 11302118 B2
- **W. Luo**, Y. Wang, W. Liu, Living body detection method and apparatus, electronic device, storage medium, and related system to which living body detection method is applied, US 2021/0073516 A1
- **W. Luo**, L. Ma, W. Liu, Neural network model training method and device, and time-lapse photography video generating method and device, US 2020/0293833 A1
- **W. Luo**, Target Tracking Method And Apparatus, Electronic Device, And Storage Medium, US 11145069 B2
- K. Zhang, **W. Luo**, L. Ma, W. Liu, Video Deblurring Method And Apparatus, Storage Medium, And Electronic Apparatus, US 2020/0372618 A1
- K. Zhang, **W. Luo**, L. Ma, W. Liu, Media processing method, related apparatus, and storage medium, US 11335127 B2
- K. Zhang, **W. Luo**, L. Ma, W. Liu, Image recognition method and apparatus, terminal, and storage medium, US2020/0302180 A1
- K. Zhang, **W. Luo**, H. Li, Image processing method and apparatus, computer device, and storage medium, US 2021/0256663 A1
- K. Zhang, **W. Luo**, L. Ma and W. Liu, Microexpression-based image recognition method and apparatus, and related device. US20210174072A1
- Z. Chen, L. Ma, **W. Luo**, W Liu, Video sequence selection method, computer device, and storage medium, US 2021/0224601 A1
- Z. Chen, L. Ma, **W. Luo**, W Liu, Video clip positioning method and apparatus, computer device, and storage medium, US 2021/0349940 A1
- H. Huang, H. Wang, **W. Luo**, L. Ma, W. Jiang, X. Zhu, Z. Li, W. Liu, Method And Apparatus For Training Neural Network Model Used For Image Processing, And Storage Medium, US 2021/0182616 A1

AWARDS AND HONORS
- CCF-Tencent Rhino-Bird Faculty Fund Excellence Award, 2024
- Champion award in the Bracketing Image Restoration and Enhancement Challenge - Track 1 & 2, NTIRE 2024, in conjuction of CVPR 2024
- The second place in the Few-shot RAW Image Denoising competition of MIPI 2024, in conjuction of CVPR 2024
- Top 2% Scientists Worldwide, 2023 & 2024.
- ACM China Rising Star (Guangzhou Chapter), 2022.
- CVPR Best Paper Finalist, 2019.

THESIS
W. Luo, Generic Multiple Object Tracking, Dept. of Electrical and Electronic Engineering, Imperial College London, 2016.

LANGUAGE
Mandarin (mother tongue)
English (strong at reading and writing, good at listening, fluent in speaking)
German (elementary knowledge)