

## Wenhan LUO, Ph.D., IEEE Senior Member

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### CONTACT INFORMATION

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### WORKING EXPERIENCE

<b>The Hong Kong University of Science and Technology</b>	<b>Hong Kong</b>
• Associate Professor	Jun, 2024 – present
<b>Sun Yat-sen University</b>	<b>Shenzhen, China</b>
• Associate Professor	Jul, 2022 – Mar, 2024
<b>Tencent</b>	<b>Shenzhen, China</b>
• Senior Researcher	Mar, 2020 – Jul, 2022
<b>Amazon</b>	<b>Palo Alto, CA, USA</b>
• Research Scientist	Jul, 2019 – Jan, 2020
<b>Tencent</b>	<b>Shenzhen, China</b>
• Senior Researcher	Aug, 2016 – May, 2019

### EDUCATION

<b>Imperial College London</b>	<b>London, UK</b>
• Ph.D. in Computer Science	Oct, 2012 – Jun, 2016
<b>Institute of Automation, Chinese Academy of Sciences</b>	<b>Beijing, China</b>
• M.E. in Control Theory and Control Engineering	Sep, 2009 – Jul, 2012
<b>Huazhong University of Science and Technology</b>	<b>Wuhan, China</b>
• B.E. in Automation	Sep, 2005 – Jul, 2009

### RESEARCH INTERESTS

Creative AI, Generative Model, Computer Vision, Machine Learning

### PUBLICATIONS

- († indicates interns/students working with me, \* indicates equal contribution)
1. 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.
  2. 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.
  3. 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.
  4. 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)*, to appear.
  5. 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)*, to appear.
  6. 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 32nd ACM International Conference on Multimedia (ACM MM)*, 2024.
  7. 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.
  8. 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.
9. 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.
  10. 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.
  11. 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.
  12. 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.
  13. 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.
  14. 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.
  15. 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.
  16. 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.
  17. 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.
  18. 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.
  19. 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.
  20. 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.
  21. 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.
  22. 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.
  23. 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.
  24. 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.
  25. 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.
26. 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.
  27. 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.
  28. 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.
  29. 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.
  30. 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.
  31. 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.
  32. 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**)
  33. 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.
  34. L. Zheng<sup>†</sup>, 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.
  35. 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.
  36. 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.
  37. 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.
  38. 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.
  39. K. Zhang<sup>†</sup>, **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.
  40. Y. Wang<sup>†</sup>, 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.
  41. K. Zhang<sup>†</sup>, 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.
  42. 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.

43. 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.
44. 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.
45. 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.
46. 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.
47. F. Zhong†, P. Sun, **W. Luo**, T. Yan, Y. Wang, Towards Distraction-Robust Active Visual Tracking, *International Conference on Machine Learning (ICML)*, 2021.
48. 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.
49. 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.
50. 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.
51. 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.
52. **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.
53. 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.
54. 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.
55. 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.
56. 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.
57. 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.
58. 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.
59. 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.
60. 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**)
61. 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.
62. 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.
  63. 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.
  64. 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.
  65. 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**)
  66. 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.
  67. 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**)
  68. 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.
  69. 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 Nominee**)
  70. **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.
  71. 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.
  72. 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**)
  73. **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.
  74. 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.
  75. 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.
  76. **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.
  77. 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.

78. H. Huang<sup>†</sup>, 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.
79. **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**)
80. **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.
81. 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.
82. **W. Luo**, T-K. Kim. Generic Object Crowd Tracking by Multi-Task Learning. *British Machine Vision Conference (BMVC)*, 2013.
83. 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.
84. 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.
85. **W. Luo**, X. Li, W. Li, W. Hu. Robust Visual Tracking via Transfer Learning. *IEEE International Conference on Image Processing (ICIP)*, 2011.
86. **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

**Journal Guest Editor:** CVIU

**Area Chair:** BMVC 2024

**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

- 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



	<p>is applied, US 2021/0073516 A1</p> <ul style="list-style-type: none"> <li>• <b>W. Luo</b>, L. Ma, W. Liu, Neural network model training method and device, and time-lapse photography video generating method and device, US 2020/0293833 A1</li> <li>• <b>W. Luo</b>, Target Tracking Method And Apparatus, Electronic Device, And Storage Medium, US 11145069 B2</li> <li>• K. Zhang, <b>W. Luo</b>, L. Ma, W. Liu, Video Deblurring Method And Apparatus, Storage Medium, And Electronic Apparatus, US 2020/0372618 A1</li> <li>• K. Zhang, <b>W. Luo</b>, L. Ma, W. Liu, Media processing method, related apparatus, and storage medium, US 11335127 B2</li> <li>• K. Zhang, <b>W. Luo</b>, L. Ma, W. Liu, Image recognition method and apparatus, terminal, and storage medium, US2020/0302180 A1</li> <li>• K. Zhang, <b>W. Luo</b>, H. Li, Image processing method and apparatus, computer device, and storage medium, US 2021/0256663 A1</li> <li>• K. Zhang, <b>W. Luo</b>, L. Ma and W. Liu, Microexpression-based image recognition method and apparatus, and related device. US20210174072A1</li> <li>• Z. Chen, L. Ma, <b>W. Luo</b>, W Liu, Video sequence selection method, computer device, and storage medium, US 2021/0224601 A1</li> <li>• Z. Chen, L. Ma, <b>W. Luo</b>, W Liu, Video clip positioning method and apparatus, computer device, and storage medium, US 2021/0349940 A1</li> <li>• H. Huang, H. Wang, <b>W. Luo</b>, 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</li> </ul>
AWARDS AND HONORS	<ul style="list-style-type: none"> <li>• Top 2% Scientists Worldwide, 2023 &amp; 2024.</li> <li>• ACM China Rising Star (Guangzhou Chapter), 2022.</li> <li>• CVPR Best Paper Nominee, 2019.</li> </ul>
THESIS	W. Luo, Generic Multiple Object Tracking, Dept. of Electrical and Electronic Engineering, Imperial College London, 2016.
LANGUAGE	<p>Mandarin (mother tongue)</p> <p>English (strong at reading and writing, good at listening, fluent in speaking)</p> <p>German (elementary knowledge)</p>