

YAN HUANG

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WORK EXPERIENCE

Institute of Automation, Chinese Academy of Sciences, Beijing Associate Professor, State Key Laboratory of Multimodal Artificial Intelligence Systems	2019.10–Now
Microsoft Research Asia, Beijing Visiting Fellow, Visual Computing Group	2019.10–2020.1
University of Adelaide, Adelaide, Australia Visiting Fellow, Australia Centre for Robotic Vision (ACRV)	2017.4–2017.5
NVIDIA China, Beijing Visiting Fellow, High Education Research (HER) Group	2016.7–2017.4

EDUCATION

Institute of Automation, Chinese Academy of Sciences, Beijing PhD, Pattern Recognition and Intelligent System	2012.9–2017.7
University of Electronic Science and Technology of China, Chengdu Bachelor, Information and Computing Science	2008.9–2012.7

RESEARCH INTEREST

Vision-language Understanding, Multimodal Embodied AI, Video Analysis.

AWARDS AND HONORS

- 2023.8, [Outstanding Youth Science Foundation](#), National Natural Science Foundation of China
- 2021.1, [Young Scientist Award](#), Chinese Society of Image and Graphics
- 2021.1, Youth Talent Support Program, China Association for Science and Technology
- 2020.12, Beijing Outstanding Young Talents, Beijing Government
- 2020.7, Beijing Nova Program, Beijing Science and Technology Committee
- 2019.10, Startrack, Microsoft Research Asia
- 2018.11, ACM Beijing Doctoral Dissertation Award, ACM China
- 2018.11, Outstanding doctoral dissertation Award, Chinese Society for Artificial Intelligence
- 2018.8, Outstanding doctoral dissertation Award, Chinese Academy of Sciences
- 2018.6, NVIDIA Pioneering Research Award, NVIDIA
- 2017.8, [Special Award from the President](#), Chinese Academy of Sciences
- 2016.9, Best Poster Award, RACV
- 2014.8, Best Student Paper Award, ICPR
- 2014.6, Best Paper Award, CVPR Workshop

INTERNATIONAL COMPETITIONS

- 2023.12, [First Place](#), Aerial Vision-and-Dialog Navigation (AVDN) Challenge
Our team: Yifei Su, Dong An, Yuan Xu, Kehan Chen, Yan Huang
- 2022.6, [First Place](#), RxR-Habitat Competition
Our team: Dong An, Zun Wang, Yangguang Li, Yi Wang, Yicong Hong, Yan Huang, Liang Wang, Jing Shao
- 2019.11, [First Place](#), Visual Object Tracking (VOT) Challenge, RGB-D Track
Our team: Hongyuan Yu, Houwen Peng, Zhirong Wu, Yan Huang, Jianlong Fu, Liang Wang
- 2019.11, [First Place](#), Wider Face and Person (WIDER) Challenge, PSL Track
Our team: Kai Niu, Yan Huang, Da Li, Liang Wang

BOOK

1. Yan Huang, and Liang Wang, Deep Cognitive Networks—Enhance Deep Learning by Modeling Human Cognitive Mechanism, Springer, ISBN: 978-981-99-0278-1, 2023.

SELECTED JOURNAL PAPERS

1. Yan Huang, Yuming Wang, Yunan Zeng, Junshi Huang, Zhenhua Chai, and Liang Wang, Unpaired Image-text Matching via Multimodal Aligned Conceptual Knowledge, *IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI)*, accepted, 2024.
2. Dong An, Hanqing Wang, Wenguan Wang, Zun Wang, Yan Huang, Keji He, and Liang Wang, Etpnav: Evolving Topological Planning for Vision-language Navigation in Continuous Environments, *IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI)*, accepted, 2024.
3. Yan Huang, Qiang Wu, Zhang Zhang, Caifeng Shan, Yan Huang, Yi Zhong, and Liang Wang, Meta Clothing Status Calibration for Long-Term Person Re-Identification, *IEEE Transactions on Image Processing (IEEE TIP)*, accepted, 2024.
4. Kai Niu, Linjiang Huang, Yuzhou Long, Yan Huang, Liang Wang, and Yanning Zhang, Comprehensive Attribute Prediction Learning for Person Search by Language, *IEEE Transactions on Image Processing (IEEE TIP)*, accepted, 2024.
5. Kai Niu, Yanyi Liu, Yuzhou Long, Yan Huang, Liang Wang, and Yanning Zhang, An Overview of Text-based Person Search: Recent Advances and Future Directions, *IEEE Transactions on Circuits and Systems for Video Technology (IEEE TCSVT)*, accepted, 2024.
6. Ke Han, Yan Huang, Liang Wang, and Zikun Liu, Self-Supervised Recovery and Guide for Low-Resolution Person Re-Identification, *IEEE Transactions on Information Forensics and Security (IEEE TIFS)*, accepted, 2024.
7. Yan Huang, Yuming Wang, and Liang Wang, Efficient Image and Sentence Matching, *IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI)*, 45(3): 2970-2983, 2023.
8. Chong Liu, Yuqi Zhang, Hongsong Wang, Weihua Chen, Fan Wang, Yan Huang, Yi-Dong Shen, and Liang Wang, Efficient Token-Guided Image-Text Retrieval with Consistent Multimodal Contrastive Training, *IEEE Transactions on Image Processing (IEEE TIP)*, 32: 3622-3633, 2023.
9. Yan Huang, Yan Huang, Zhang Zhang, Qiang Wu, Yi Zhong, and Liang Wang, Enhancing Person Re-Identification Performance through in vivo Learning, *IEEE Transactions on Image Processing (IEEE TIP)*, 33: 639-654, 2023.

10. Xu Song, Saihui Hou, Yan Huang, Chunshui Cao, Xu Liu, Yongzhen Huang, and Caifeng Shan, Gait Attribute Recognition: A New Benchmark for Learning Richer Attributes from Human Gait Patterns, *IEEE Transactions on Information Forensics and Security (IEEE TIFS)*, 18: 4787-4799, 2023.
11. Yang Wang, Yan Huang, Caifeng Shan, and Liang Wang, Progressive Sub-Domain Information Mining for Single-Source Generalizable Gait Recognition, *IEEE Transactions on Information Forensics and Security (IEEE TIFS)*, 19: 1-14, 2023.
12. Zhengxiong Luo, Yan Huang, Shang Li, Liang Wang, and Tieniu Tan, End-to-End Alternating Optimization for Real-World Blind Super Resolution, *International Journal of Computer Vision (IJCV)*, 131: 3152-3169, 2023.
13. Yan Huang, Jingdong Wang, and Liang Wang, Few-Shot Image and Sentence Matching via Aligned Cross-Modal Memory, *IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI)*, 44(6): 2968-2983, 2022.
14. Hongyuan Yu, Houwen Peng, Yan Huang, Hao Du, Jianlong Fu, Liang Wang, and Haibin Ling, Cyclic Differentiable Architecture Search, *IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI)*, 45(1): 211-228, 2022.
15. Linjiang Huang, Yan Huang, Wanli Ouyang, and Liang Wang, Two-Branch Relational Prototypical Network for Weakly Supervised Temporal Action Localization, *IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI)*, 44(9): 5729-5746, 2022.
16. Jianhua Yang, Yan Huang, Kai Niu, Linjiang Huang, Zhanyu Ma, and Liang Wang, Actor and Action Modular Network for Text-based Video Segmentation, *IEEE Transactions on Image Processing (IEEE TIP)*, 31: 4474-4489, 2022.
17. Zerui Chen, Yan Huang, Hongyuan Yu, and Liang Wang, Learning a Robust Part-Aware Monocular 3D Human Pose Estimator via Neural Architecture Search, *International Journal of Computer Vision (IJCV)*, 130: 56-75, 2022.
18. Yuchun Fang, Zhengye Xiao, Wei Zhang, Yan Huang, Liang Wang, Nozha Boujemaa, and Donald German, Attribute Prototype Learning for Interactive Face Retrieval, *IEEE Transactions on Information Forensics and Security (IEEE TIFS)*, 16: 2593-2607, 2021.
19. Chao Fan, Hongyuan Yu, Yan Huang, Caifeng Shan, Liang Wang, and Chenglong Li, SiamON: Siamese Occlusion-aware Network for Visual Tracking, *IEEE Transactions on Circuits and Systems for Video Technology (IEEE TCSVT)*, 33(1): 186-199, 2021.
20. Linjiang Huang, Yan Huang, Wanli Ouyang, and Liang Wang, Modeling Sub-Actions for Weakly Supervised Temporal Action Localization, *IEEE Transactions on Image Processing (IEEE TIP)*, 30: 5154-5167, 2021.
21. Aihua Zheng, Menglan Hu, Bo Jiang, Yan Huang, Yan Yan, and Bin Luo, Adversarial-Metric Learning for Audio-Visual Cross-Modal Matching, *IEEE Transactions on Multimedia (IEEE TMM)*, 24: 338-351, 2021.
22. Yan Huang, Qi Wu, Wei Wang, and Liang Wang, Image and Sentence Matching via Semantic Concepts and Order Learning, *IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI)*, 42(3): 636-650, 2020.
23. Kai Niu, Yan Huang, Wanli Ouyang, and Liang Wang, Improving Description-based Person Re-identification by Multi-granularity Image-text Alignments, *IEEE Transactions on Image Processing (IEEE TIP)*, 29: 5542-5556, 2020.

24. Yan Huang, Wei Wang, and Liang Wang, Video Super-resolution via Bidirectional Recurrent Convolutional Networks, *IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI)*, 40(4), 1015-1028, 2018.
25. Yan Huang, Wei Wang, Liang Wang, and Tieniu Tan, Conditional High-order Boltzmann Machines for Supervised Relation Learning, *IEEE Transactions on Image Processing (IEEE TIP)*, 26(9):4297-4310, 2017.
26. Yan Huang, Wei Wang, and Liang Wang, Unconstrained Multimodal Multi-Label Learning, *IEEE Transactions on Multimedia (IEEE TMM)*, 17(11):1923-1935, 2015.

SELECTED CONFERENCE PAPERS

1. Yunan Zeng, Yan Huang, Jinjin Zhang, Zequn Jie, Zhenhua Chai, Liang Wang, Investigating Compositional Challenges in Vision-Language Models for Visual Grounding, *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 14141-14151, 2024.
2. Keji He, Chenyang Si, Zhihe Lu, Yan Huang, Liang Wang, and Xinchao Wang, Frequency-Enhanced Data Augmentation for Vision-and-Language Navigation, *Neural Information Processing Systems (NeurIPS)*, 2023.
3. Dong An, Yuankai Qi, Yangguang Li, Yan Huang, Liang Wang, Tieniu Tan, and Jing Shao, BEVBert: Multimodal Map Pre-training for Language-guided Navigation, *IEEE International Conference on Computer Vision (ICCV)*, pp. 2737-2748, 2023.
4. Zhengxiong Luo, Dayou Chen, Yingya Zhang, Yan Huang, Liang Wang, Yujun Shen, Deli Zhao, Jingren Zhou, and Tieniu Tan, VideoFusion: Decomposed Diffusion Models for High-Quality Video Generation, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 10209-10218, 2023.
5. Ke Han, Shaogang Gong, Yan Huang, Liang Wang, Tieniu Tan, Clothing-Change Feature Augmentation for Person Re-Identification, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 22066-22075, 2023.
6. Weichen Yu, Tianyu Pang, Qian Liu, Chao Du, Bingyi Kang, Yan Huang, Min Lin, Shuicheng Yan, Bag of tricks for training data extraction from language models, *International Conference on Machine Learning (ICML)*, 2023.
7. Yan Huang, Yuming Wang, Yunan Zeng, and Liang Wang, MACK: Multimodal Aligned Conceptual Knowledge for Unpaired Image-text Matching, *Neural Information Processing Systems (NeurIPS)*, 2022.
8. Hongyuan Yu, Tian Li, Weichen Yu, Jianguo Li, Yan Huang, Liang Wang, and Alex Liu, Regularized Graph Structure Learning with Semantic Knowledge for Multi-variate Time-Series Forecasting, *International Joint Conference on Artificial Intelligence (IJCAI)*, 2362-2368, 2022.
9. Zhengxiong Luo, Yan Huang, Shang Li, Liang Wang, and Tieniu Tan, Learning the Degradation Distribution for Blind Image Super-Resolution, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.
10. Ke Han, Chenyang Si, Yan Huang, Liang Wang, and Tieniu Tan, Generalizable Person Re-Identification via Self-Supervised Batch Norm Test-Time Adaptation, *AAAI Conference on Artificial Intelligence (AAAI)*, 2022.

11. Keji He, Yan Huang, Qi Wu, Jianhua Yang, Dong An, Shuanglin Sima, and Liang Wang, Landmark-RxR: Solving Vision-and-Language Navigation with Fine-Grained Alignment Supervision, *Neural Information Processing Systems (NeurIPS)*, 2021.
12. Dong An, Yuankai Qi, Yan Huang, Qi Wu, Liang Wang, and Tieniu Tan, Neighbor-view Enhanced Model for Vision and Language Navigation, *ACM Conference on Multimedia (MM)*, pp. 5101-5109, 2021.
13. Zhengxiong Luo, Zhicheng Wang, Yan Huang, Shang Li, Liang Wang, Tieniu Tan, and Erjin Zhou, Rethinking the Heatmap Regression for Bottom-Up Human Pose Estimation, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 13264-13273, 2021.
14. Zhengxiong Luo, Yan Huang, Shang Li, Liang Wang, and Tieniu Tan, Unfolding the Alternating Optimization for Blind Super Resolution, *Neural Information Processing Systems (NeurIPS)*, 2020.
15. Kai Niu, Yan Huang, and Liang Wang, Textual Dependency Embedding for Person Search by Language, *ACM Conference on Multimedia (MM)*, pp. 4032-4040, 2020.
16. Zerui Chen, Yan Huang, Hongyuan Yu, Bin Xue, Ke Han, Yiru Guo, and Liang Wang, Towards Part-aware Monocular 3D Human Pose Estimation: An Architecture Search Approach, *European Conference on Computer Vision (ECCV)*, 2020.
17. Ke Han, Yan Huang, Zerui Chen, Liang Wang, Tieniu Tan, Prediction, Recovery and Identification: Adaptive Low-Resolution Person Re-Identification, *European Conference on Computer Vision (ECCV)*, 2020.
18. Linjiang Huang, Yan Huang, Wanli Ouyang, and Liang Wang, Relational Prototypical Network for Weakly Supervised Temporal Action Localization, *AAAI Conference on Artificial Intelligence (AAAI)*, 2020.
19. Linjiang Huang, Yan Huang, Wanli Ouyang, and Liang Wang, Part-Level Graph Convolutional Network for Skeleton-Based Action Recognition, *AAAI Conference on Artificial Intelligence (AAAI)*, 2020.
20. Yan Huang and Liang Wang, ACMM: Aligned Cross-Modal Memory For Few-Shot Image and Sentence Matching, *IEEE International Conference on Computer Vision (ICCV)*, pp. 5774-5783, 2019.
21. Yan Huang, Yang Long, and Liang Wang, Few-Shot Image and Sentence Matching via Gated Visual-Semantic Embedding, *AAAI Conference on Artificial Intelligence (AAAI)*, pp. 8489-8496, 2019.
22. Weining Wang, Yan Huang, and Liang Wang, Language-driven Temporal Activity Localization: A Semantic Matching Reinforcement Learning Model, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 334-343, 2019.
23. Chunfeng Song, Yan Huang, Wanli Ouyang, and Liang Wang, Box-driven Class-wise Region Masking and Filling Rate Guided Loss for Weakly Supervised Semantic Segmentation, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 3136-3145, 2019.
24. Yan Huang, Qi Wu, Chunfeng Song, and Liang Wang, Learning Semantic Concepts and Order for Image and Sentence Matching, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 6163-6171, 2018.
25. Chunfeng Song, Yan Huang, Wanli Ouyang, and Liang Wang, Mask-Guided Contrastive Attention Model for Person Re-Identification, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 1179-1188, 2018.
26. Junbo Wang, Wei Wang, Yan Huang, Liang Wang, and Tieniu Tan, Multimodal Memory Modelling for Video Captioning, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pp.

- 7512-7520, 2018.
27. Junbo Wang, Wei Wang, Yan Huang, Liang Wang, and Tieniu Tan, Hierarchical Memory Modelling for Video Captioning, ACM Conference on Multimedia (MM), pp. 63-71, 2018.
 28. Chenglong Li, Chengli Zhu, Yan Huang, Jin Tang, and Liang Wang, Cross-Modal Ranking with Soft Consistency and Noisy Labels for Robust RGB-T Tracking, European Conference on Computer Vision (ECCV), pp. 831-847, 2018.
 29. Yan Huang, Wei Wang, and Liang Wang, Instance-aware Image and Sentence Matching with Selective Multimodal LSTM, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pp. 2310-2318, 2017.
 30. Zhen Zhou, Yan Huang, Wei Wang, Liang Wang, and Tieniu Tan, See the forest for the trees: Joint spatial and temporal recurrent neural networks for video-based person re-identification, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), pp. 6776-6785, 2017.
 31. Yan Huang, Wei Wang, and Liang Wang, Bidirectional Recurrent Convolutional Networks for Multi-Frame Super-Resolution, Neural Information Processing Systems (NeurIPS), pp. 235-243, 2015.
 32. Yan Huang, Wei Wang, and Liang Wang, Conditional High-order Boltzmann Machine: A Supervised Learning Model for Relation Learning, IEEE International Conference on Computer Vision (ICCV), pp. 4265-4273, 2015.

ACADEMIC SERVICE

- Area Chair, CVPR 2024, CVPR 2025
- Deputy Secretary General, Chinese Computer Federation–Computer Vision Committee, 2020-Now
- Co-Chair, CVPR 2020 Workshop on Multimodal Learning, 2020
- Co-Chair, CVPR 2020 Workshop on Language & Vision with Applications to Video Understanding, 2020
- Co-Chair, ICCV 2019 Workshop on Cross-Modal Learning in Real World, 2019
- Vice-Chair, IEEE UCAS Branch, 2016-2017
- Reviewer, IEEE TPAMI, IEEE TIP, IEEE TIFS, IEEE TNNLS, IJCV, PR, etc
- Reviewer, CVPR, ICCV, ECCV, ICLR, NeurIPS, AACL, IJCAI, etc