Chao Liang

CONTACT INFORMATION	National Engineering Research Center for Multimedia Software Room 606 (South), Undergraduate Building School of Computer Science, Wuhan University (WHU)

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RESEARCH INTERESTS

Pattern Recognition, Computer Vision, Multimedia, Data Mining
Adversarial Attack & Defense, Human-Computer Interaction

WORK EXPERIENCE

Dec. 2024 – Now	School of Computer Science, WHU	Full Professor
Jan. 2015 – Nov. 2024	School of Computer Science, WHU	Associate Professor
Aug. 2014 – Dec. 2014	School of Computer Science, WHU	Assistant Professor
Aug. 2012 – Jul. 2014	School of Computer Science, WHU	Postdoc

EDUCATION BACKGROUND

Sep. 2006 – Jul. 2012   *Ph.D. in Pattern Recognition and Intelligent System*
Institute of Automation, Chinese Academy of Sciences (CASIA), Beijing, China

Sep. 2002 – Jun. 2006   *B.E. (Honors) in Automation*
Huazhong University of Science & Technology (HUST), Wuhan, Hubei Province, China

PROJECTS AND FUNDINGS (PI)

National Natural Science Foundation of China, No.62372339, 61876135, 61303114
National Natural Science Foundation of Hubei Province, No.2019CFB472, 2014CFB712
National Natural Science Foundation of Jiangsu Province, No.BK20160386

HONOURS AND AWARDS

Grand Prize, Higher Education (Undergraduate) Teaching Achievement Award of Wuhan University, 2025

Excellent Author Award, Wuhan University Journal of Natural Sciences (English Edition), 2025

The First Prize, Young Faculty Teaching Competition of Wuhan University, 2024

Outstanding Teacher Award, Ministry of Education (MoE)-Huawei "Intelligent Base" Project, 2024

The Second Prize, The Hubei Provincial Science and Technology Progress Award, 2023

Best VBS 2023 Newcomer, International Conference on Multimedia Modeling, 2023

Outstanding Reviewer, ACM International Conference on Multimedia Retrieval, 2022

Excellent Author Award, Wuhan University Journal of Natural Sciences, 2020

Excellent Undergraduate Teaching Achievement Award, Wuhan University, 2020, 2023, 2024

Best Paper Award, The 15-th Pacific-Rim Conference on Multimedia, 2014

PAPERS AND REPORTTS

[**Journal papers**]

J1. Jiahao Guo, Ankang Lu, Zhengqian Wu, Zhongyuan Wang, **Chao Liang***, "Who, What and Where: Composite-Semantics Instance Search for Story Videos", *IEEE Transactions on Image Processing* (TIP), vol. 34, pp. 1412-1426, doi: 10.1109/TIP.2025.3542272, 2025.

J2. Tao Wen, You-Ming Fu*, Chun-Xia Xiao, Hai-Ming Xiang, **Chao Liang***, "Floor Plan Restoration: A Multimodal Method Under One Second", *IEEE Transactions on Visualization and Computer Graphics* (TVCG), doi: 10.1109/TVCG.2025.3539497, 2025.

J3. Keyizhi Xu, Zhan Chen, Zhongyuan Wang, Chunxia Xiao, **Chao Liang***, "Towards Robust Adversarial Purification for Face Recognition under Intensity-Unknown Attacks", *IEEE Transactions on Information Forensics & Security* (TIFS), vol. 19, pp. 9550-9565, 2024.

J4. Yue Zhang, **Chao Liang***, Longxiang Jiang, "Confidence-Aware Active Feedback for Interactive Instance Search", *IEEE Transactions on Multimedia* (TMM), vol. 25, pp. 7173-7184, 2023.

J5. Yanrui Niu, **Chao Liang***, Ankang Lu, Baojin Huang, Zhongyuan Wang, Jiahao Guo, "Person-Action Instance Search in Story Videos: An Experimental Study", *ACM Transactions on Information Systems* (TOIS), vol. 42, issue 2, pp. 1-34, 07 November 2023.

J6. Weijian Ruan, **Chao Liang***, Yi Yu, Zheng Wang, Wu Liu, Jun Chen, Jiayi Ma, "Correlation Discrepancy Insight Network for Video Re-identification", *ACM Transactions on Multimedia Computing, Communication and Applications* (TOMM), vol.16, no.4, pp.120:1-120:21, November 2020.

J7. Mang Ye, **Chao Liang***, Yi Yu, Zheng Wang, Qingming Leng, Chunxia Xiao, Jun Chen, Ruimin Hu, "Person Re-identification via Ranking Aggregation of Similarity Pulling and Dissimilarity Pushing", *IEEE Transactions on Multimedia* (TMM), vol.18, no.12, pp. 2553-2566, 2016.

J8. **Chao Liang**, Changsheng Xu, Jian Cheng, Weiqing Min, Hanqing Lu, "Script-to-Movie: A Computational Framework for Story Movie Composition", *IEEE Transactions on Multimedia* (TMM), vol.15, no.2, pp.401-414, 2013.

[**Conference papers**]

C1. Yue Zhang, Mingyue Bin, Yuyang Zhang, Zhongyuan Wang, Zhen Han, **Chao Liang***, "Link-based Contrastive Learning for One-Shot Unsupervised Domain Adaptation", *In Proc. of IEEE Computer Society Conf. on Computer Vision and Pattern Recognition* (CVPR), 2025.

C2. Keyizhi Xu, Chi Zhang, Zhan Chen, Zhongyuan Wang, Chunxia Xiao, **Chao Liang***, "Rethinking the Adversarial Robustness of Multi-Exit Neural Networks in an Attack-Defense Game", *In Proc. of IEEE Computer Society Conf. on Computer Vision and Pattern* (CVPR), 2025.

C3. Zhengqian Wu, Ruizhe Li, Zijun Xu, Zhongyuan Wang, Chunxia Xiao, **Chao Liang***, "FriendsQA: A New Large-Scale Deep Video Understanding Dataset with Fine-grained Topic Categorization for Story Videos", *The 38th Annual AAAI Conference on Artificial Intelligence* (AAAI), 2025.

C4. Siyi Wang, Qi Deng, Shiwei Feng, **Chao Liang***, "A Survey on Rank Aggregation", *Proceedings of the Thirty-Third International Joint Conference on Artificial Intelligence* (IJCAI), pp. 8281-8289, August 2024.

C5. Chunyu Hu, Hong Zhang, **Chao Liang***, Hao Huang, "QI-IRA Quantum-Inspired Interactive Ranking Aggregation for Person Re-identification", *The 38th Annual AAAI Conference on Artificial Intelligence* (AAAI), 38(3), pp. 2202-2210, 2024.

C6. Ruizhe Li, Jiahao Guo, Mingxi Li, Zhengqian Wu, **Chao Liang***, "A Hierarchical Deep Video Understanding Method with Shot-Based Instance Search and Large Language Model", *ACM Multimedia* (MM), no. 5, pp. 9425?9429, 2023.

C7. Wenjun Huang, **Chao Liang***, Yi Yu, Zheng Wang, Weijian Ruan, Ruimin Hu, "Video-based Person Re-identification via Self Paced Weighting", *In Proc. of Thirty-Second AAAI Conference on Artificial Intelligence* (AAAI), vol.32, no.1, pp.2273-2280, 2018.

C8. **Chao Liang**, Bingyue Huang, Ruimin Hu, Chunjie Zhang, Xiao-Yuan Jing, Jing Xiao, "A Unsupervised Person Re-identification Method Using Model Based Representation and Ranking", *ACM Multimedia* (MM), pp. 771-774, 2015.

C9. Mang Ye, **Chao Liang***, Zheng Wang, Qingming Leng, Jun Chen, "Ranking Optimization for Person Re-identification via Similarity and Dissimilarity", *ACM Multimedia* (MM), pp.1239-1242, 2015.

C10. **Chao Liang**, Changsheng Xu, Jian Cheng, Hanqing Lu, "TVParser: An automatic TV video parsing method", In Proc. of *IEEE Computer Society Conf. on Computer Vision and Pattern Recognition* (CVPR), pp.3377-3384, 2011.

[**Technical reports**]

TR1. Jiangshan He, Ruizhe Li, Jiahao Guo, Hong Zhang, Mingxi Li, Zhengqian Wu, Zhongyuan Wang, Bo Du, **Chao Liang***, "WHU-NERCMS AT TRECVID 2023: AD-HOC VIDEO SEARCH (AVS) AND DEEP VIDEO UNDERSTANDING (DVU) TASKS", Participant Notebook Paper, NIST TRECVID, 2023. (**The first place in both AVS and DVU tasks**)

TR2. Yanrui Niu, Jingyao Yang, Ankang Lu, Baojin Huang, Yue Zhang, Ji Huang, Shishi Wen, Dongshu Xu, **Chao Liang***, Zhongyuan Wang, Jun Chen, "WHU-NERCMS at TRECVID 2021: Instance Search Task", Participant Notebook Paper, NIST TRECVID, 2021. (**The first place in the INS task**)

PROFESSIONAL ACTIVITIES

[**Membership**]

M1. Senior Member, CCF, since 2015

M2. Member, IEEE, since 2018

M3. Member, ACM, since 2023