

Zhenwen Ren



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1. Biography

I am currently the full Professor and doctoral supervisor at the School of Computer Science, Southwest University of Science and Technology. I also serves as Deputy Director of the Nuclear Environment Safety Technology Innovation Center, China Atomic Energy Authority. I received the Ph.D. degree from the Nanjing University of Science and Technology, China, in 2021. I have been selected for several high-level talent programs, including the Sichuan Province Elite Program, the Sichuan Provincial Academic and Technological Leaders Cultivation Program, and the World's Top 2% Scientists List.

My recent research focuses on multi-modal learning, clustering, and large model. As first or corresponding author, I have published more than 100 papers in top-tier AI venues, such as **CVPR, ICML, AAAI, IJCAI, ACM MM, IEEE TIP, IEEE TNNLS, IEEE TKDE, IEEE TCYB, IEEE TII, IEEE TMM, IEEE TCSVT, Pattern Recognition**, etc. Moreover, I serve as the **Area Chair or Senior Program Committee** member for some top-tier conferences, such as **CVPR, ICLR, NeurIPS, ICML, ACM MM, IJCAI, and AAAI**. I have led more than 30 projects funded by the National Natural Science Foundation of China, China's National Defense Program, and the Sichuan Program of Science and Technology, while holding over 20 national patents. My researches have also been granted by multiple prestigious awards, including two National Science and Technology Awards; one Chinese Association of Automation Awards; three China South Industries Group Corporation Awards; and one China Society of Image and Graphics Award. Several of my achievements have been reported by the China's mainstream medias, such as CCTV and People's Daily.

2. Research Area

- **Multimodal Learning:** Multi-modal Fusion & Multi-modal Perception.
- **Machine Learning:** Clustering & Image Processing.
- **Large Language Models:** Application of MLLMs/LLMs.
- **AI for Sciences:** Physics-Informed Neural Networks Analysis and Application.

3. Honors & Awards

- Outstanding Talent of Science and Technology Industry of Sichuan Province, China.
- Reserve Candidate for Academic and Technological Leader of Sichuan Province, China.
- Scientific and Technological Talent of Mianyang City, China.

- Science and Technology Progress Award of State Administration of Science, Technology and Industry for National Defence, China, 2025.
- Science and Technology Progress Award of State Administration of Science, Technology and Industry for National Defence, China, 2024.
- Science and Technology Progress Award of State Administration of Science, Technology and Industry for National Defence, China, 2023.
- Science and Technology Progress Award of Chinese Association of Automation, 2024.
- Science and Technology Progress Award of China Society of Image and Graphics, 2022.
- World's Top2% Scientists shared by Stanford University.

4. Services

- [1] **Associate Editor:**Journal of Engineering Science, and Automation of Weapons.
- [2] **Area Chair:** International Conference on Machine Learning (ICML), Neural Information Processing Systems (NeurIPS), International Conference on Learning Representations (ICLR), and ACM Multimedia (ACM MM).
- [3] **Senior Program Committee:** Association for the Advancement of Artificial Intelligence (AAAI), and International Joint Conference on Artificial Intelligence (IJCAI).
- [4] Reviewer for journals: IEEE TPAMI, IEEE TIP, IEEE TNNLS and more than 20 others.
- [5] Reviewer for Conferences: CVPR, AAAI, IJCAI, ICCV, ECCV, KDD, MM, ICLR, NIPS etc.

5. Education & Work Experience

- CAEA Innovation Center of Nuclear Environmental Safety Technology *Mianyang, China*
March. 2025 –Present
Southwest University of Science and Technology *Mianyang, China*
August 2014 –March 2025
- Alibaba Group *Hangzhou, China*
June 2014 –August 2014
- Nanjing University of Science and Technology *Nanjing, China*
September 2007 –June 2014

6. Representative Publications (citations **2600⁺**, ‘*’ denotes corresponding author)

- [1] **ICML 2025:** Honglin Yuan, Xingfeng Li, Jian Dai, Xiaojian You, Yuan Sun, **Zhenwen Ren***, Deep Streaming View Clustering[C]. ICML, 2025.
- [2] **ICML 2025:** Siyuan Duan, Wenyan Wu, Peng Hu, **Zhenwen Ren**, Dezhong Peng, Yuan Sun, CoPINN: Physical Informed Neural Network[C]. ICML, 2025.
- [3] **ICML 2025:** Ruitao Pu, Yang Qin, Xiaomin Song, Dezhong Peng, **Zhenwen Ren**, Yuan Sun, SHE: Streaming-media Hashing Retrieval[C]. ICML, 2025.

- [4] **CVPR 2025:** Yuan Sun, Yongxiang Li, **Zhenwen Ren**, Guiduo Duan, Dezhong Peng, Peng Hu, ROLL: Robust Noisy Pseudo-label Learning for Multi-View Clustering with Noisy Correspondence, CVPR 2025.
- [5] **IJCAI 2025:** Devin Zhuang, Jian Dai, Xingfeng Li, Xi Wu, Yuan Sun, **Zhenwen Ren***, Robust Graph Contrastive Learning for Incomplete Multi-view Clustering[C]. IJCAI, 2025.
- [6] **ACM MM 2025:** Junyu Chen, Jiawei Peng, Yuan Sun, Jian Dai, Xingfeng Li, **Zhenwen Ren**, Scalable Unpaired Multi-View Clustering via Anchor-Driven High-Throughput Encoding, ACM MM 2025
- [7] **AAAI 2025:** Zhongwen Wang, Xingfeng Li, Yinghui Sun, Sun Quansen, Yuan Sun, Han Ling, Jian Dai, **Zhenwen Ren**, TPCP: Tensor-interacted Projection and Cooperative Hashing for Multi-view Clustering. Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), 2025.
- [8] **AAAI 2025:** Shilin Xu, Yuan Sun, Xingfeng Li, Siyuan Duan, **Zhenwen Ren**, Zheng Liu, Dezhong Peng, Noisy Label Calibration for Multi-View Classification. Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), 2025.
- [9] **AAAI 2025:** Ruitao Pu, Yuan Sun, Yang Qin, **Zhenwen Ren**, Xiaomin Song, Huiming Zheng, Dezhong Peng, Robust Self-paced Hashing for Cross-Modal Retrieval with Noisy Labels. AAAI Conference on Artificial Intelligence (AAAI), 2025.
- [10] **ACM MM 2024:** Xi Wu, Chuang Huang, Xinliu Liu, Fei Zhou, **Zhenwen Ren***, Multiple Kernel Clustering with Shifted Laplacian on Grassmann Manifold. ACM Multimedia (MM), 2024.
- [11] **ACM MM 2024:** Yinghui Sun, Xingfeng Li, Sun Quansen, Min-Ling Zhang, and **Zhenwen Ren***, Improved Weighted Tensor Schatten Norm for Fast Multiview Graph Clustering. ACM Multimedia (MM), 2024.
- [12] **ACM MM 2024:** Honglin Yuan, Shiyun Lai, Xingfeng Li, Jian Dai, Yuan Sun, and **Zhenwen Ren***, Robust Prototype Completion for Incomplete Multi-view Clustering. ACM Multimedia (MM), 2024.
- [13] **ACM MM 2024:** Yuan Sun, Kaiming Liu, Yongxiang Li, **Zhenwen Ren**, Jian Dai, Dezhong Peng, Distribution Consistency Guided Hashing for Cross-Modal Retrieval. ACM Multimedia (MM), 2024.
- [14] **IJCAI 2024:** Xingfeng Li, Yugang Pan, Yinghui Sun, Quansen Sun, Ivor Tsang, **Zhenwen Ren***, Fast Unpaired Multi-view Clustering. International Joint Conference on Artificial Intelligence (IJCAI), 2024
- [15] **IJCAI 2024:** Kaiming Liu, Yunhong Gong, Yu Cao, **Zhenwen Ren**, Dezhong Peng, and Yuan sun, Dual Semantic Fusion Hashing for Multi-Label Cross-Modal Retrieval. International Joint Conference on Artificial Intelligence (IJCAI), 2024
- [16] **ACM MM 2023:** Xingfeng Li, Yinghui Sun, Quansen Sun, Jian Dai, and **Zhenwen Ren***, Distribution Consistency based Fast Anchor Imputation for Incomplete Multi-view. ACM Multimedia (MM), 2023.
- [17] **ACM MM 2023:** Yuan Sun, Dezhong Peng, Jian Dai, and **Zhenwen Ren***, Stepwise Refinement Short Hashing for Image Retrieval. ACM Multimedia (MM), 2023.
- [18] **CVPR 2023:** Han Ling, **Zhenwen Ren***, Yinghui Sun, Quansen Sun, Learning Optical Expansion from Scale Matching. IEEE Conference on Computer Vision and Pattern Recognition (CVPR). 2023

- [19] **AAAI 2024:** Yuan Sun, Jian Dai, **Zhenwen Ren**, Yingke Chen, Dezhong Peng, and Peng Hu, Dual Self-Paced Cross-Modal Hashing. AAAI Conference on Artificial Intelligence (AAAI), 2024.
- [20] **AAAI 2023:** Jiali You, **Zhenwen Ren***, Xiaojian You, Haoran Li, and Yuancheng Yao, Prior Anchor Labels Supervised Scalable Multi-view Bipartite Graph Clustering. AAAI Conference on Artificial Intelligence (AAAI), 2023
- [21] **ACM MM 2022:** Han Ling Quansen Sun, **Zhenwen Ren***, Yazhou Liu, Hongyuan Wang, and Zichen Wang, Scale-flow: Estimating 3D Motion from Video. ACM Multimedia (MM), 2022.
- [22] **ACM MM 2022:** Yuan Sun, Dezhong Peng, Haixiao Huang, and **Zhenwen Ren***, Feature and Semantic Views Consensus Hashing for Image Set Classification. ACM Multimedia (MM), 2022.
- [23] **ACM MM 2022:** Xingfeng Li, **Zhenwen Ren***, and Yinghui Sun, Dynamic Incomplete Multi-view Imputing and Clustering. ACM Multimedia (MM), 2022.
- [24] **ACM MM 2022:** Jiali You, **Zhenwen Ren***, Quansen Sun, Yuan Sun, and Xingfeng Li, Approximate Shifted Laplacian Reconstruction for Multiple Kernel Clustering. ACM Multimedia (MM), 2022.
- [25] **AAAI 2021:** **Zhenwen Ren**, Quansen Sun, and Dong Wei, Multiple Kernel Clustering with Kernel k-Means Coupled Graph Tensor Learning. AAAI Conference on Artificial Intelligence (AAAI), 2021.
- [26] **TIP 2025:** Honglin Yuan, Yuan Sun, Fei Zhou, Jing Wen, Shihua Yuan, Xiaojian You, and **Zhenwen Ren***, Prototype Matching Learning for Incomplete Multi-view Clustering[J]. IEEE Transactions on Image Processing, 2025.
- [27] **TNNLS 2024:** Haoran Li, **Zhenwen Ren***, Yulan Guo, Jiali You, and Xiaojian You, LSVC: A Lifelong Learning Approach for Stream View Clustering[J]. IEEE Transactions on Neural Networks and Learning Systems, 2024
- [28] **TMM 2024:** Xingfeng Li, Yuangang Pan, Yuan Sun, Quansen Sun, Yinghui Sun, Ivor W. Tsang, and **Zhenwen Ren***, Incomplete Multi-view Clustering with Paired and Balanced Dynamic Anchor Learning[J]. IEEE Transactions on Multimedia, 2024
- [29] **TMM 2024:** Haoran Li, Yulan Guo, Jiali You, Xiaojian You, and **Zhenwen Ren***, Graph Proxy Fusion: Consensus Graph Intermediated Multi-view Local Information Fusion Clustering[J]. IEEE Transactions on Multimedia, 2024
- [30] **TNNLS 2023:** Jiali You, **Zhenwen Ren***, F. Richard Yu, and Xiaojian You, One-stage Shifted Laplacian Refining for Multiple Kernel Clustering[J]. IEEE Transactions on Neural Networks and Learning Systems, 2023
- [31] **TMM 2023:** Ze Zhou, Yinghui Sun, Quansen Sun, Chaobo Li, and **Zhenwen Ren***, Unit Correlation with Interactive Feature for Robust and Effective Tracking[J]. IEEE Transactions on Multimedia, 2023.
- [32] **TMM 2024:** Yuan Sun, Yang Qin, Dezhong Peng, **Zhenwen Ren**, Chao Yang, Peng Hu, Dual Self-Paced Hashing for Image Retrieval[J]. IEEE Transactions on Multimedia, 2024.
- [33] **TIP 2023:** Yuan Sun, Xu Wang, Dezhong Peng, **Zhenwen Ren***, and Xiaobo Shen, Hierarchical Hashing Learning for Image Set Classification[J]. IEEE Transactions on Image Processing, 2023.
- [34] **TCSS 2023:** Xingfeng Li, Yinghui Sun, Quansen Sun, and **Zhenwen Ren***, Enforced Block Diagonal Graph Learning for Multi-kernel Clustering[J]. IEEE Transactions on Computational Social Systems, 2023

- [35] **TCSVT 2023:** Haoran Li, Yulan Guo, **Zhenwen Ren***, F. Richard Yu, Jiali You, and Xiaojian You, Explicit Local Coupling Global Structure Clustering[J]. IEEE Transactions on Circuits and Systems for Video Technology, 2023.
- [36] **TCSVT 2023:** Xingfeng Li, Yinghui Sun, Quansen Sun, and **Zhenwen Ren***. Consensus Cluster Center Guided Latent Multi-kernel Clustering [J]. IEEE Transactions on Circuits and Systems for Video Technology, 2023.
- [37] **TCSVT 2023:** Ze Zhou, Yinghui Sun, Quansen Sun, Chaobo Li, and **Zhenwen Ren**. Only Once Attack: Fooling the Tracker with Adversarial Template [J]. IEEE Transactions on Circuits and Systems for Video Technology, 2023.
- [38] **JSAC 2021:** **Zhenwen Ren**, Mithun Mukherjee, Mehdi Bennis, and Jaime Lloret. Multi-kernel Clustering via Non-negative Matrix Factorization Tailored Graph Tensor over Distributed Network [J]. IEEE Journal on Selected Areas in Communications, 2021.
- [39] **TCYB 2020:** **Zhenwen Ren**, Simon X. Yang, Quansen Sun, and Tao Wang. Consensus Affinity Graph Learning for Multiple Kernel Clustering [J]. IEEE Transactions on Cybernetics, 2020.
- [40] **TNNLS 2020:** **Zhenwen Ren** and Quansen Sun. Simultaneous Global and Local Graph Structure Preserving for Multiple Kernel Clustering [J]. IEEE Transactions on Neural Networks and Learning Systems, 2020.
- [41] **THI 2020:** **Zhenwen Ren**, Mithun Mukherjee, and Jaime Lloret. Multiple Kernel Driven Clustering with Locally Consistent and Selfish Graph in Industrial IoT [J]. IEEE Transactions on Industrial Informatics, 2020.
- [42] **TIP 2020:** **Zhenwen Ren**, Quansen Sun, Bin Wu, and Wenzhu Yan. Learning Latent Low-Rank and Sparse Embedding for Robust Image Feature Extraction [J]. IEEE Transactions on Image Processing, 2020.
- [43] **TMM 2022:** Ze Zhou, Quansen Sun, Hongjun Li, Chaobo Li, and **Zhenwen Ren**. Regression-selective feature-adaptive tracker for visual object tracking [J]. IEEE Transactions on Multimedia, 2022.
- [44] **TMM 2022:** Dong Wei, Xiaobo Shen, Quansen Sun, Xizhan Gao, and **Zhenwen Ren**. Sparse Representation Classifier Guided Grassmann Reconstruction Metric Learning With Applications to Image Set Analysis [J]. IEEE Transactions on Multimedia, 2022.
- [45] **TCE 2023:** Yinghui Sun, **Zhenwen Ren***, Zhen Cui, and Xiaobo Shen. Feature Weighted Multi-view Graph Clustering [J]. IEEE Transactions on Consumer Electronics, 2023.
- [46] **TCE 2023:** Yanying Mei, **Zhenwen Ren***, Bin Wu, Tao Yang, and Yanhua Shao. Multi-view Comprehensive Graph Clustering [J]. IEEE Transactions on Consumer Electronics, 2023.
- [47] **TCE 2023:** Xi Wu, Hanchen Wang, Shuhxiao Li, Jian Dai, and **Zhenwen Ren***. Prior Indicator Guided Anchor Learning for Multi-view Subspace Clustering [J]. IEEE Transactions on Consumer Electronics, 2023.
- [48] **TMM 2023:** Yuan Sun, **Zhenwen Ren**, Peng Hu, Dezhong Peng, and Xu Wang. Hierarchical Consensus Hashing for Cross-Modal Retrieval [J]. IEEE Transactions on Multimedia, 2023.
- [49] **TITS 2024:** Yuan Sun, Jian Dai, **Zhenwen Ren**, Qilin Li, and Dezhong Peng. Relaxed Energy Preserving Hashing for Image Retrieval [J]. IEEE Transactions on Intelligent Transportation Systems, 2024.
- [50] **TMM 2022:** Yuan Sun, Dezhong Peng, **Zhenwen Ren**, and Xiaobo Shen. Aggregation Hashing Learning for Image Set Classification [J]. IEEE Transactions on Multimedia, 2022.

- [51] **TWC 2020:** Vikas Kumar, Mithun Mukherjee, Jaime Lloret, **Zhenwen Ren**, and Mamta Kumari. A Joint Prototype Filter and Spectrum Shifting for Low Complex Flexible UPMC Architecture in 5G [J]. IEEE Transactions on Wireless Communications, 2020.
- [52] **TIJ 2019:** Fanrong Shi, and **Zhenwen Ren**. Fast Convergence Time Synchronization in Wireless Sensor Networks Based on Average Consensus [J]. IEEE Transactions on Industrial Informatics, 2019.
- [53] **TKDE 2019:** Xiaoqian Zhang, Beijia Chen, Huaijiang Sun, **Zhenwen Ren**, and Yanmeng Li. Robust Low-Rank Kernel Subspace Clustering based on the Schatten p-norm and Correntropy [J]. IEEE Transactions on Knowledge and Data Engineering, 2019.
- [54] **JAS 2023:** Xi Wu, **Zhenwen Ren***, and F. Richard Yu. Parameter-free Shifted Laplacian Reconstruction for Multiple Kernel Clustering [J]. IEEE/CAA Journal of Automatica Sinica, 2023.
- [55] **INFFUS 2024:** Xingfeng Li, Yuangang Pan, Yuan Sun, Yinghui Sun, Quansen Sun, and **Zhenwen Ren***. Scalable Unpaired Multi-view Clustering with Bipartite Graph Matching [J]. Information Fusion, 2024.
- [56] **INFFUS 2023:** Xingfeng Li, Yinghui Sun, Quansen Sun, and **Zhenwen Ren***. Cross-view Cluster-level Anchor Alignment Guided Incomplete Multi-view Clustering [J]. Information Fusion, 2023.
- [57] **PR 2024:** Dongliang Wang, Chuang Huang, Hao Pan, Yuan Sun, Jian Dai, Yanan Li, and **Zhenwen Ren***. AMLCA: Additive multi-layer convolution-guided cross-attention network for visible and infrared image fusion [J]. Pattern Recognition, 2024.
- [58] **PR 2022:** Xingfeng Li, **Zhenwen Ren***, Quansen Sun, and Zhi Xu. Auto-weighted Tensor Schatten p-Norm for Robust Multi-view Graph Clustering [J]. Pattern Recognition, 2022.
- [59] **PR 2022:** Yanying Mei, **Zhenwen Ren***, Bin Wu, and Yanhua Shao. Multi-order Similarity Learning for Multi-view Spectral Clustering [J]. Pattern Recognition, 2022.
- [60] **PR 2021:** Dong Wei, Xiaobo Shen, Quansen Sun, and **Zhenwen Ren**. Neighborhood Preserving Embedding on Grassmann Manifold for Image-set Analysis [J]. Pattern Recognition, 2021.
- [61] **PR 2020:** Tao Wang, Zexuan Ji, Jian Yang, Quansen Sun, Xiaobo Shen, **Zhenwen Ren**, and Qi Ge. Label Group Diffusion for Image and Image Pair Segmentation [J]. Pattern Recognition, 2020.
- [62] **KBS 2019:** **Zhenwen Ren**, Haoran Li, Chao Yang, and Quansen Sun. Multiple kernel subspace clustering with Local Structural Graph and Low-Rank Consensus Kernel Learning [J]. Knowledge-Based Systems, 2019.
- [63] **KBS 2022:** Xinyue Zhang, **Zhenwen Ren***, and Chao Yang. Center Consistency Guided Multi-view Embedding Anchor Learning for Large-Scale Graph Clustering [J]. Knowledge-Based Systems, 2022.
- [64] **KBS 2020:** Haoran Li, **Zhenwen Ren***, Quansen Sun, and Yuqing Huang. Robust Energy Preserving Embedding for Multi-view Subspace Clustering [J]. Knowledge-Based Systems, 2020.
- [65] **ESWA 2022:** Xuemei Han, **Zhenwen Ren***, Chuanyun Zou, Xiaojian You. Incomplete Multi-view Subspace Clustering Based on Missing-sample Recovering and Structural Information Learning, Expert Systems with Applications 2022.

- [66] **ESWA 2018: Zhenwen Ren**, Bin Wu, Quansen Sun, Mingna Wu. Simultaneous Learning of Reduced Prototypes and Local Metric for Image Set Classification, Expert Systems with Applications 2018.
- [67] **ESWA 2022:** Jiao Wang, Bin Wu, **Zhenwen Ren***, Yunhui Zhou. Multi-scale Deep Multi-view Subspace Clustering with Self-weighting Fusion and Structure Preserving, Expert Systems with Applications 2022.
- [68] **ESWA 2019:** Wenzhu Yan, Huaijiang Sun, Quansen Sun, **Zhenwen Ren**. Multiple Kernel Dimensionality Reduction Based on Collaborative Representation for Set-oriented Image Classification, Expert Systems with Applications 2019.