Jinbao **Wang**

Research Assistant Professor · SUSTech

1088Xueyuan Avenue, Shenzhen 518055, P.R China

(+86) 18801286817 | linkingring@163.com | jinbao-wang.github.io | jinbao-wang |

https://scholar.google.com/citations?hl=en&user=qI80ipUAAAAJ

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About Me

I was born in Hebei on 12 Nov. 1989 and received a PhD degree from the University of Chinese Academy of Sciences (UCAS) in 2019. I am a Research Assistant Professor at the Southern University of Science and Technology (SUSTech), Shenzhen, China. My main fields involve computer vision and machine learning, with a long-term focus on image anomaly detection, graph representation learning, image diversification generation, and fast retrieval. We are committed to applying visual technology to the human-machine interaction environment of real industrial scenes and virtual reality.

Led the National Natural Science Foundation of China (NSFC)'s "Efficient 3D Anomaly Detection Algorithm for Industrial Vision" (Grant No. 62206122); Participated in general projects such as the theory and methods of multimodal object 3D detection and recognition based on deep learning technology; Published **20+** papers in important international journals and conferences, such as IEEE TIP, IEEE TCSVT, Neurocomputing, ICCV, ACM MM, NeurIPS, and ICLR, with **700+** citations and **1** highly cited paper; Served as a reviewer for international journals and conferences, such as IEEE TIP, IEEE TCSVT, ACM MM, NeurIPS, AAAI, IJCAI, ICML; Currently, as a member of IEEE, ACM and other top artificial intelligence conference procedures committees.

Project

1. 2024.1-2028.12, National Natural Science Foundation of China (NSFC), Major International (Regional) Joint Project–"Research on Key Technologies of High-Fidelity Digital Human Modeling and Driving", Grant No. 62320106007. **2.16 million RMB**. Chinese Side Collaborator.
2. 2023.1-2025.12, National Natural Science Foundation of China (NSFC) Youth Project–"Efficient 3D Anomaly Detection Algorithm for Industrial Vision", Grant No. 62206122. **300K RMB**. Principal Investigator.
3. 2023.4-2023.8. Development of a flexible electrostatic adsorption-assisted unmanned aerial vehicle visual positioning and object grasping platform. Harbin Institute of Technology (Shenzhen). **35K RMB**. Principal Investigator.
4. 2023.1-2025.12, Supported by postdoctoral research in Shenzhen. **300K RMB**. Principal Investigator.

Experience

Department of Computer Science and Engineering, College of Engineering, Southern University of Science and Technology (SUSTech) — *Shenzhen, China*

Research Assistant Professor — *2021.10 - PRESENT*

- Research on image anomaly detection, computer vision, machine learning.

Department of Computer Science and Engineering, College of Engineering, Southern University of Science and Technology (SUSTech) — *Shenzhen, China*

Postdoctoral Researcher — *2019.10 - 2021.10*

- Research on graph representation learning, fast retrieval, and computer vision.

Education

University of Chinese Academy of Sciences (UCAS) — *Beijing, China*

Ph.D.in Computer Applications Technology — *2016.9 - 2019.7*

- Thesis title: *Research on 3D Reconstruction for Objects in Multiview Video Sequences*
- Supervisor: Professor Ke Lu

Beijing Union University (BUU) — *Beijing, China*

M.S. in Computer Applications Technology — *2013.9 - 2016.7*

- Thesis title: *Research on Digital Image Dehazing*
- Supervisor: Professor Ning He

Hebei University (HBU) — *Hebei, China*

B.S. in Electronic Information Science and Technology — *2009.9 - 2013.7*

Honors & Awards

2019 **Outstanding Graduates from Beijing**, UCAS *Beijing, China*
2019 **Chinese Academy of Sciences Dean Scholarship**, UCAS *Beijing, China*
2016 **Outstanding Graduates from Beijing**, BUU *Beijing, China*
2015 **National Scholarship**, BUU *Beijing, China*

Program Committees

2024 **Reviewer**, AAAI
2023 **Reviewer**, IEEE TIP, IEEE TCSVT, NeurIPS, Patterns, IJCAI, ACM MM, ICLR, PR

Publications

Note that * contributed equally, † corresponding authors.

First author: 12; Corresponding author: 7; Paper total number: 26

CCF-A Paper **(First author: 2; Corresponding author: 4)**

1. Jiaqi Liu, Guoyang Xie, Ruitao Chen, Xinpeng Li, **Jinbao Wang**†, Yong Liu, Chengjie Wang, Feng Zheng†. "Real3D-AD: A Dataset of Point Cloud Anomaly Detection." NeurIPS Datasets & Benchmarks Track. 2023.
2. Ruitao Chen, Guoyang Xie, Jiaqi Liu, **Jinbao Wang**†,Ziqi Luo, Jinfan Wang, and Feng Zheng†. "EasyNet: An Easy Network for 3D Industrial Anomaly Detection." In Proceedings of the 31st ACM International Conference on Multimedia (ACM MM). 2023.
3. Wujin Li, Jiawei Zhan, **Jinbao Wang**†, Bizhong Xia, Bin-Bin Gao, Jun Liu, Chengjie Wang, and Feng Zheng†. "Towards Continual Adaptation in Industrial Anomaly Detection." In Proceedings of the 30th ACM International Conference on Multimedia (ACM MM), pp. 2871-2880. 2022.
4. Xi Jiang, Jianlin Liu, **Jinbao Wang**†, Qiang Nie, W. U. Kai, Yong Liu, Chengjie Wang, and Feng Zheng†. "SoftPatch: Unsupervised Anomaly Detection with Noisy Data." In Advances in Neural Information Processing Systems (NeurIPS). 2022.
5. **Jinbao Wang***, Guoyang Xie*, Yawen Huang*, Yefeng Zheng, Yaochu Jin, and Feng Zheng. "FedMed-ATL: Misaligned Unpaired Cross-Modality Neuroimage Synthesis via Affine Transform Loss." In Proceedings of the 30th ACM International Conference on Multimedia (ACM MM), pp. 1522-1531. 2022.
6. **Jinbao Wang**, Shuo Xu, Feng Zheng, Ke Lu, Jingkuan Song, and Ling Shao. "Learning efficient hash codes for fast graph-based data similarity retrieval."IEEE Transactions on Image Processing (`IEEE TIP`) 30 (2021): 6321-6334.
7. Hongjun Chen, **Jinbao Wang**, Hong Cai Chen, Xiantong Zhen, Feng Zheng, Rongrong Ji, and Ling Shao. "Seminar learning for click-level weakly supervised semantic segmentation." In Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV), pp. 6920-6929. 2021.

Highly Cited Paper **(First author: 1)**

1. **Jinbao Wang**, Ning He, Lu-Lu Zhang, and Ke Lu. "Single image dehazing with a physical model and dark channel prior." Neurocomputing 149 (2015): 718-728.

Other Published Paper (First author: 9; Corresponding author: 3)

1. Guoyang Xie*, Yawen Huang*, **Jinbao Wang**†, Jiayi Lyu, Feng Zheng†, Yefeng Zheng, and Yaochu Jin. "Cross-Modality Neuroimage Synthesis: A Survey." ACM Computing Surveys. 2023.
2. Lingrui Zhang, Shuheng Zhang, Guoyang Xie, Jiaqi Liu, Hua Yan, **Jinbao Wang**†, Feng Zheng†, and Yaochu Jin. "What makes a good data augmentation for few-shot unsupervised image anomaly detection?" In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR Vision Workshop), pp. 4344-4353. 2023.
3. Guoyang Xie*, **Jingbao Wang***†, Jiaqi Liu*, Feng Zheng†, and Yaochu Jin. "Pushing the limits of fewshot anomaly detection in industry vision: Graphcore." The Eleventh International Conference on Learning Representations (ICLR). 2023.
4. Jiaqi Liu*, Guoyang Xie*, **Jinbao Wang***, Shangnian Li, Chengjie Wang, Feng Zheng, and Yaochu Jin. "Deep Industrial Image Anomaly Detection: A Survey." Machine Intelligence Research (MIR). 2023.
5. Guoyang Liu*, **Jinbao Wang***, Guo Yu, Feng Zheng, and Yaochu Jin. "Tiny adversarial multi-objective oneshot neural architecture search." Complex & Intelligent Systems (CIS) 6 (2023): 107-109.
6. **Jinbao Wang***, Xie, Guoyang*, Yawen Huang*, Jiayi Lyu, Feng Zheng, Yefeng Zheng, and Yaochu Jin."FedMed-GAN: Federated domain translation on unsupervised cross-modality brain image synthesis." Neurocomputing 546 (2023): 126282.
7. Hao Zheng*, **Jinbao Wang***, Xiantong Zhen, Jingkuan Song, Feng Zheng, Ke Lu, and Guo-Jun Qi. "Continuous cross-modal hashing." Pattern Recognition (PR) 142 (2023): 109662.
8. **Jinbao Wang***, Shujie Tan*, Xiantong Zhen, Shuo Xu, Feng Zheng, Zhenyu He, and Ling Shao. "Deep 3D human pose estimation: A review." Computer Vision and Image Understanding (CVIU) 210 (2021): 103225.

9. Lian Chen, Ke Lu, Pengcheng Gao, Jian Xue, and **Jinbao Wang**. "A Novel Multi-feature Skeleton Representation for 3D Action Recognition." In International Conference on Pattern Recognition (ICPR), pp. 365-379. Springer, Cham, 2021.
10. **Jinbao Wang**, Ke Lu, Jian Xue, and Yutong Kou. "Relative Depth Estimation Prior for Single Image Dehazing." In 2019 IEEE International Conference on Multimedia & Expo Workshops (ICMEW), pp. 270-275. IEEE, 2019.
11. **Jinbao Wang**, Ke Lu, Jian Xue, Pengcheng Gao, and Yanfu Yan. "A markerless body motion capture system for character animation based on multi-view cameras." In ICASSP 2019-2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), pp. 8558-8562. IEEE, 2019.
12. **Jinbao Wang**, Ke Lu, Jian Xue, Ning He, and Ling Shao. "Single image dehazing based on the physical model and MSRCR algorithm." IEEE Transactions on Circuits and Systems for Video Technology (`IEEE TCSVT`) 28, no. 9 (2017): 2190-2199.
13. Ning He, **Jinbao Wang**, Lu-Lu Zhang, Guang-Mei Xu, and Ke Lu. "Non-local sparse regularization model with application to image denoising." Multimedia Tools and Applications 75, no. 5 (2016): 2579-2594.
14. Ning He, **Jinbao Wang**, Lu-Lu Zhang, and Ke Lu. "Convex optimization based low-rank matrix decomposition for image restoration." Neurocomputing 172 (2016): 253-261.
15. **Jinbao Wang**, Ning He, and Ke Lu. "A new single image dehazing method with MSRCR algorithm." In Proceedings of the 7th International Conference on Internet Multimedia Computing and Service, pp. 1-4. 2015.
16. Ning He, **Jinbao Wang**, Lu-Lu Zhang, and Ke Lu. "An improved fractional-order differentiation model for image denoising." Signal Processing 112 (2015): 180-188.
17. Ning He, Ke Lu, and **Jinbao Wang**. "Image denoising using fractional-order non-local TV model." In Proceedings of International Conference on Internet Multimedia Computing and Service, pp. 279-282. 2014.
18. Ning He, Ke Lu, Bing-Kun Bao, Lu-Lu Zhang, and **Jinbao Wang**. "Single-image motion deblurring using an adaptive image prior." Information Sciences 281 (2014): 736-749.

In Progress Paper

1. **Jinbao Wang***, Guoyang Xie*, Yawen Huang*, Jiayi Lyu, Feng Zheng, Yefeng Zheng, and Yaochu Jin. "K-CROSS: K-Space-Aware Cross-Modality Score for Synthesized Neuroimage Quality Assessment." IEEE Journal of Biomedical and Health Informatics (`IEEE JBHI`) (Under Review). 2023.
2. Guoyang Xie*, **Jinbao Wang***, Jiaqi Liu*, Jiayi Lyu, Yong Liu, Chengjie Wang, Feng Zheng, and Yaochu Jin. "IM-IAD: Industrial image anomaly detection benchmark in manufacturing." IEEE Transactions on Cybernetics (`IEEE TCYB`) (Major Revision). 2023.