# 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

*"Be the change that you want to see in the world."*

## Summary

My main fields involve computer vision and machine learning, with a long-term focus on image anomaly detection, graph feature 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 multi-modal object 3D detection and recognition based on deep learning technology; Published 20+ papers in important international journals and conferences, such as TIP, TCSVT, Neurocomputing, ICCV, ACM MM, NeurIPS, etc., with a total of 600+ citations and 1 highly cited article. Currently serving as a reviewer for top international journals such as IEEE TIP and IEEE TCSVT, as well as a member and reviewer of the AAAI, IJCAI, ACM MM, ICML, and other top artificial intelligence conference procedures committees.

## 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.
- Direct the National Natural Science Foundation of China (NSFC) project, Grant No. 62206122.

**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

| | |
|---|---|
| 2023 | **Reviewer**, IEEE TIP, IEEE TCSVT, NeurIPS, Patterns, IJCAI, ACM MM, ICLR |

# Publications

Note that * contributed equally, † corresponding authors.

**Conference**

1. 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.

2. 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.

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. 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.

7. 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.

8. **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.

9. **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.

10. **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.

11. 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.

**Journal**

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**\*, Yawen Huang*, Jiayi Lyu, Feng Zheng, Yefeng Zheng, and Yaochu Jin. "Cross-Modality Neuroimage Synthesis: A Survey." ACM Computing Surveys (Major Revision). 2023.

3. 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.

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 mulit-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**, 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.

9. **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.

10. **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.

11. **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.

12. 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.

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. 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.