Jinbao **Wang**

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"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 and Technology Foundation of China's "Efficient 3D Anomaly Detection Algorithm for Industrial Vision" (project number: 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 25 papers in important international journals and conferences, such as TIP, TCSVT, Neurocomputing, ICCV, ACM MM, NeurIPS, etc., with a total of 577 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 and Technology 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, IJCAI, ACM MM, ICLR

Publications

Note that * contributed equally, † corresponding authors.

Conference

- Zhang, Lingrui, 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.
- Xie, Guoyang*, **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.
- Li, Wujin, 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.
- 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.
- **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.
- Chen, Hongjun, **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.
- Chen, Lian, 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.
- **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.
- **Jinbao Wang**, Ke Lyu, 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.
- **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.
- He, Ning, 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

- Xie, Guoyang*, **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.
- Xie, Guoyang*, **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 (TCYB) (Major Revision). 2023.
- Liu, Jiaqi*, 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.
- Xie, Guoyang*, **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.
- **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.
- Zheng, Hao*, **Jinbao Wang***, Xiantong Zhen, Jingkuan Song, Feng Zheng, Ke Lu, and Guo-Jun Qi. "Continuous cross-modal hashing." Pattern Recognition (PR) 142 (2023): 109662.
- **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 (TIP) 30 (2021): 6321-6334.
- **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.
- **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 (TCSVT) 28, no. 9 (2017): 2190-2199.
- **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.
- He, Ning, **Jinbao Wang**, Lu-Lu Zhang, and Ke Lu. "An improved fractional-order differentiation model for image denoising." Signal Processing 112 (2015): 180-188.
- He, Ning, **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.
- He, Ning, **Jinbao Wang**, Lu-Lu Zhang, and Ke Lu. "Convex optimization based low-rank matrix decomposition for image restoration." Neurocomputing 172 (2016): 253-261.
- He, Ning, 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.