



BIO

I am a Research Fellow in Prof. Weisi Lin's group in Alibaba-NTU Singapore Joint Research Institute, Nanyang Technological University (NTU). I received my Ph.D. degree from Beijing Jiaotong University (BJTU), supervised by Prof. Yao Zhao and Prof. Chunyu Lin. I was a Joint Ph.D. Student from Sep. 2016 to Sep. 2018 in the School of Engineering Science, Simon Fraser University (SFU), supervised by Prof. Jie Liang. I was fortunate to work closely with Prof. Ming-Ting Sun (UW), Prof. Bing Zeng (UESTC), and Prof. Ce Zhu (UESTC). My research interest includes image/video compression and quality assessment, 3D vision, etc. I received the excellent Ph.D. thesis award from the Chinese Institute of Electronics (CIE) in 2019.

EDUCATION

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|-------------------|--|-----------|-------------------|
| • Research Fellow | Nanyang Technological University | Singapore | 2019.11 – present |
| • PhD | Beijing Jiaotong University | China | 2014.09 – 2019.06 |
| • Joint PhD | Simon Fraser University | Canada | 2016.09 – 2018.09 |
| • M.E. | Taiyuan University of Science and Technology | China | 2011.09 – 2014.06 |
| • B.E. | Taiyuan University of Science and Technology | China | 2007.09 – 2011.06 |

ACADEMIC RESEARCH EXPERIENCE

- HUAWEI **Co-PI** 3D AI Generated Content (AIGC) Quality Assessment Singapore 2023 - 2025
- Alibaba-AIR **Co-PI** Video Quality Assessment for User Generated Content (UGC) Singapore 2021 - 2023
- International Cooperation Mainly Involved Video Compression for human and machine China-Singapore 2021 - 2025
- Alibaba-AIR **Co-PI** Machine Vision Oriented video Compression Singapore 2020 - 2021
- Alibaba-AIR Major Participant JND Modelling for Image Compression Singapore 2020 - 2021
- Alibaba-AIR Major Participant Video Quality Assessment in WebRTC Singapore 2019 - 2020
- NSERC Discovery Grant Mainly Involved 3D Video Coding and Rendering Canada 2016 - 2018
- Google Chrome Mainly Involved Image Coding via Deep Neural Networks Canada 2016 - 2017
- International Cooperation Mainly Involved 3D Object and Macro Cube-based Coding and Understanding of 3D Video China 2013 - 2017
- National Basic Research Program Mainly Involved Unified Representation and Modeling Mechanism for Cross-Media Data China 2012 - 2016
- National Science Fund Mainly Involved Image/video coding and digital watermarking China 2011 – 2014

RESEARCH INTERESTS

- Visual Data Compression: image compression towards human and machine uses, 3D video coding
- Perception Modelling: HVS-based JND modelling, Machine vision based JND modelling, 3D vision modelling
- Visual Data Quality Assessment: image, video and feature quality assessment, AIGC quality assessment
- Privacy security: adversarial attack, adversarial sample generation, face image generation
- Data augmentation: low/high-level vision tasks

PROFESSIONAL SKILLS

- C/C++, MATLAB, Python, Tensorflow, Pytorch, LaTeX

AWARDS

- Excellent Ph.D. thesis award from the Chinese Institute of Electronics (CIE) in 2019
- Excellent Graduates in Beijing (Jun. 2019, only 3 Ph.D. got this award in BJTU)
- President Scholarship of BJTU (Apr. 2017 the greatest honor for the graduate students at BJTU)
- Annual Best paper of Institute of Information Science, Beijing Jiao Tong University (Jan. 2017)
- The Hanergy Li Jianing Scholarship (Nov. 2016 Rank 1)
- China National Scholarship (Oct. 2016 Rank 1)
- China Scholarship Council (CSC) Scholarship (Jun. 2016)
- Excellent Paper Award of BJTU (Jun. 2016)



- Ph.D. Innovation Fund of BJTU (Dec. 2015)
- Miyoshi outstanding graduate student of BJTU (Nov. 2015)
- First-class Ph.D. academic scholarship of BJTU (Oct. 2015)

PUBLICATION LIST

Already Published: (* Equal contribution, # Corresponding author)

- [1] Yuan Xue, **Jian Jin**#, Weisi Lin, Wen Sun, “HVS-Inspired Adversarial Image Generation with High Perceptual Quality”, *Journal of Cloud Computing (JCC)*, 2023.
- [2] Yaxuan Liu*, **Jian Jin***#, Member, IEEE, Yuan Xue, Weisi Lin, “The First Comprehensive Dataset with Multiple Distortion Types for Visual Just-Noticeable Differences”, *IEEE International Conference on Image Processing (ICIP)*, 2023.
- [3] Fanxin, Xia, **Jian Jin**#, Lili Meng, Feng Ding, Huaxiang Zhang, “GAN-based Image Compression with Improved RDO Process”, *The International Conference on Image and Graphics (ICIG)*, 2023.
- [4] Jiangzhong Cao, Ximei Yao Yao, Huan Zhang, **Jian Jin**, Yun Zhang, Bingo Wing-Kuen Ling, “Slimmable Multi-task Image Compression for Human and Machine Vision”, *IEEE Access*, 2023.
- [5] Xingxing Zhang, Shupeng Gui, **Jian Jin**, Zhenfeng Zhu, Yao Zhao, Ji Liu, “Atzsl: Defensive zero-shot recognition in the presence of adversaries”, *IEEE Transactions on Multimedia (TMM)*, 2023.
- [6] **Jian Jin**, Xingxing Zhang, Lili Meng, Weisi Lin, Jie Liang, Huaxiang Zhang, Yao Zhao, “Auto-Weighted Layer Representation Based View Synthesis Distortion Estimation for 3-D Video Coding”, *IEEE Transactions on Multimedia (TMM)*, 2022.
- [7] Wen Sun*, **Jian Jin***, Weisi Lin, “Minimum Noticeable Difference based Adversarial Privacy Preserving Image Generation”, *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*, 2022. (* Equal contribution)
- [8] **Jian Jin**, Xingxing Zhang, Xin Fu, Huan Zhang, Weisi Lin, Jian Lou, Yao Zhao, “Just Noticeable Difference for Deep Machine Vision”, *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*, 2021.
- [9] Geyang Wang, Yao Zhao, Chunyu Lin, Meiqin Liu, and **Jian Jin**, “Dually Octagonal Projection for 360 Video with Less-Distortion Introduced”, *International Conference on Signal Processing (ICSP)*, vol. 1, pp. 246-251. IEEE, 2020.
- [10] Chao Yao, Jimin Xiao, **Jian Jin**, Xiaojuan Ban, “Edge Orientation Driven Depth Super-Resolution for View Synthesis”, *International Conference on Image and Graphics (ICIG)*, 2020.
- [11] **Jian Jin**, Jie Liang, Yao Zhao, Chunyu Lin, Chao Yao, Lili Meng, “Pixel-level View Synthesis Distortion Estimation for 3-D Video Coding”, *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*, 2019. (Accepted Online)
- [12] **Jian Jin**, Jie Liang, Yao Zhao, Chunyu Lin, Chao Yao, Anhong Wang, “A Depth-Bin-Based Graphical Model for Fast View Synthesis Distortion Estimation”, *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*, 2019, 29(6): 1754 - 1766.
- [13] **Jian Jin**, Anhong Wang, Yao Zhao, Chunyu Lin, and Bing Zeng, “Region-aware 3D-warping for DIBR,” *IEEE Transactions on Multimedia (TMM)*, 2016, 18(6): 953-966.
- [14] **Jian Jin**, Yao Zhao, Chunyu Lin, and Anhong Wang, “An Accurate and Efficient Nonlinear Depth Quantization Scheme,” *Pacific Rim Conference on Multimedia (PCM 2015)*, Korea, pp. 390-399, Aug. 2015.
- [15] **Jian Jin**, Anhong Wang, Yao Zhao, and Chunyu Lin, “A fast region-level 3D-warping method for depth-image-based rendering”, *IEEE International Workshop on Multimedia Signal Processing (MMSP 2015)*, Xiamen, pp. 1-6, Oct. 2015.
- [16] Lijun Zhao, Anhong Wang, Bing Zeng, **Jian Jin**, “Scalable Coding of Depth Images with Synthesis-Guided Edge Detection,” *KSII Transactions on Internet and Information Systems*, 2015, 9(10): 4108-4125.
- [17] Zhiwei Xing, Anhong Wang, **Jian Jin**, Yingchun Wu, “Synthesis-Aware Region-Based 3D Video Coding,” *Pacific Rim Conference on Multimedia (PCM 2015)*, Korea, pp. 400-409, Aug. 2015.

Under Review:

- [1] **Jian Jin**, Yuan Xue, Xingxing Zhang, Lili Meng, Yao Zhao, Weisi Lin, “HVS-Inspired Signal Degradation Network for Just Noticeable Difference Estimation”, *IEEE Transactions on Multimedia (TMM)*, 2023.
- [2] **Jian Jin**, Dong Yu, Weisi Lin, Lili Meng, Hao Wang, Huaxiang Zhang, “Full RGB Just Noticeable Difference (JND) Modelling”, *IEEE Transactions on Image Processing (TIP)*, 2023.



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- [3] Lili Meng, Sien Chen, **Jian Jin**[#], Weisi Lin, Zhuo Chen, Tsui-Shan Chang, Zhengguang Li, Huaxiang Zhang, “A New Image Codec Paradigm for Human and Machine Uses”, *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*, 2023.
- [4] Wen Sun, **Jian Jin**, Weisi Lin, “Privacy Preserving Face Makeup Image Generation with Adversarial Diffusion Model,” *International Conference on Computer Vision (ICCV)*, 2023.
- [5] Feng Ding, Jian Jin, Lili Meng, Weisi Lin, “JND-Based Perceptual Optimization for Learned Image Compression”, *IEEE International Conference on Visual Communications and Image Processing (VCIP)*, 2023.

Preparing:

- [1] Dongyu, **Jian Jin**^{*}, Lili Meng^{*}, Weisi Lin, “Full Color Space JND Modelling: A Benchmark”, *IEEE Transactions on Industrial Informatics (TII)*, 2023.
- [2] **Jian Jin**, Yuan Xue, Weisi Lin, “Towards Human Visual System Feature-Level Just Noticeable Difference Modelling”, *IEEE Transactions on Image Processing (TIP)*, 2023.
- [3] **Jian Jin**, Yao Fu, Lili Meng, Weisi Lin, “Feature-Wise JND: Semantic Redundancy Estimation for Deep Visual Features”, *IEEE Transactions on Multimedia (TMM)*, 2023.

PROFESSIONAL ACTIVITIES

- **Members:**
 - IEEE
 - CIE
 - CSIG
- **Technical Program/Review Committee Member:**
 - National Conference on Image and Graphics (NCIG 2020)
 - IEEE International Conference on Visual Communications and Image Processing (VCIP 2018)
 - Asia Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC 2018)
- **Reviewer for:**
 - IEEE Transactions on Image Processing
 - IEEE Transactions on Circuits and Systems for Video Technology
 - IEEE Transactions on Multimedia
 - IEEE Intelligent Transport System
 - Signal Processing: Image Communication
 - Neurocomputing
 - Multimedia Systems
 - EURASIP Journal on Image and Video Processing
 - International Journal of Pattern Recognition and Artificial Intelligence
 - IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2020-2022)
 - IEEE International Conference on Multimedia & Expo (ICME 2020)
 - IEEE International Symposium on Circuits and Systems (ISCAS 2019)
 - IEEE International Workshop on Multimedia Signal Processing (MMSP 2019)
 - IEEE International Conference on Visual Communications and Image Processing (VCIP 2019, 2018)