

QUNLIANG XING · VIDEO CODING AND ENHANCEMENT

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Education

09.2019 - Present Doctor of Philosophy	Beihang University with an Honors degree Advisor Professor Mai Xu Major Communication and Information Systems
09.2015 - 07.2019 Bachelor of Engineering	Beihang University with an Honors degree Major Communication and Information Systems

Publications

IEEE/CVF CVPR 2024	Enhancing Quality of Compressed Images by Mitigating Enhancement Bias Towards Compression Domain Q. Xing, M. Xu, S. Li, X. Deng, M. Zheng, H. Liu, Y. Chen Identified and mitigated enhancement bias, thereby improving the quality of enhanced compressed images.
IEEE TPAMI 2023	DAQE: Enhancing the Quality of Compressed Images by Exploiting the Inherent Characteristic of Defocus Q. Xing, M. Xu, X. Deng, Y. Guo Proposed an intra-image divide-and-conquer enhancement strategy based on defocus, which indicates region-wise compression quality.
IEEE/CVF CVPRW 2022	Progressive Training of a Two-stage Framework for Video Restoration Q. Xing*, M. Zheng*, M. Qiao*, M. Xu, L. Jiang, H. Liu, Y. Chen NTIRE winning solution: Integrated a series of contributions on dataset construction, inference architecture design, and training strategy optimization.
ECCV 2020	Early Exit or Not: Resource-efficient Blind Quality Enhancement for Compressed Images Q. Xing, M. Xu, T. Li, Z. Guan Proposed a multi-level early-exit enhancement strategy based on real-time quality assessment for the blind quality enhancement challenge.
IEEE TPAMI 2019	MFQE 2.0: A New Approach for Multi-frame Quality Enhancement on Compressed Video Q. Xing, Z. Guan, M. Xu, R. Yang, T. Liu, Z. Wang Enhanced low-quality frames using key frames in hierarchical encoding, effectively improving compressed video quality and mitigating quality fluctuations.

Community Service

02.2021 - Present	Reviewer TIP ('21-), TMM ('21-), TCSVT ('22-), JAS ('22-) CVPR ('24), AAAI ('25), ICME ('21)
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Work Experience

12.2021 - 12.2023 Research Intern	Alibaba Tao Technology Acted as the main contributor in the NTIRE CVPR 2022 Video Quality Enhancement Challenge, responsible for dataset construction, inference architecture design, and training strategy optimization. The proposed solution won the competition, competing against teams from ETH, CUHK's XPixel lab, Tencent's GY-Lab, and others.
07.2021 - 09.2021 Research Intern	Tencent Rhino-bird Open-source Training Program Selected as one of the 127 participants out of more than 1800 candidates; replicated recent work based on the high-performance graph computing platform Angel.
12.2018 - 12.2019 Research Intern	Huawei 2012 Lab Served as the main contributor for multi-frame decoding quality optimization on Huawei's proprietary encoder HW.265; achieved over a 10% BD-BR gain on a real business dataset covering a large volume of UGC and live game streaming videos.

Honors and Awards

2023	China National Scholarship Highest national award available to graduate students.
2023	Beihang Academic Excellence Foundation for Ph.D. Candidates Ranked 1st/96 in the college.
2022	Glarun Scholarship by the 14TH Research Institute, CETC Among four awardees from 96 college students.
2022	Winner of the CVPR NTIRE challenge on Super-Resolution and Quality Enhancement of Compressed Video Ranked 1st/8 in the final.
2019	Beihang Excellent Graduate Top 20% in the university.
2015/18/21/22	Beihang Outstanding/Merit Student Top 5% in the university.
2014	Shenzhen Merit Student Sole awardee in the school.