

# Qunliang Xing

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## Introduction

Qunliang Xing received the BEng degree and Honors degree from Beihang University, Beijing, China in 2019. He is currently pursuing the Ph.D. degree at Beihang University, advised by Professor Mai Xu. His research interests include image/video enhancement and coding. He has published several papers in IEEE TPAMI and ECCV, one of which is top 1% highly cited according to the essential science indicators (ESI). He has won two NTIRE championships. His open-source projects have received more than 600 stars. He is awarded the Active Contributor by OpenMMLab. He has won the second place in the Beihang 100m final and the Beihang soccer championship as the school team captain. He is a reviewer for several IEEE transactions including TIP, TMM, TCSVT and JAS.

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## Education

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| <b>Beihang University, Beijing, China</b>                                    | Sept. 2019 – Present                              |
| <i>Ph.D. student</i>   | School of Electronics and Information Engineering |
| <i>Honors Ph.D. Student</i>  | Shen Yuan Honors College                          |
| <b>Beihang University, Beijing, China</b>                                    | Sept. 2015 – July 2019                            |
| <i>Bachelor of Engineering</i>   | School of Electronics and Information Engineering |
| <i>Honors Bachelor</i>   | Shen Yuan Honors College                          |
| <b>Nanshan Foreign Language School, Shenzhen, China</b>                      | Sept. 2012 – July 2015                            |
| Admitted to Beihang University with the highest score in Guangdong Province. | High School                                       |

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## Selected Publications

- [1] *DAQE: Enhancing the Quality of Compressed Images by Exploiting the Inherent Characteristic of Defocus*  
Qunliang Xing, Mai Xu, Xin Deng, Yichen Guo  
IEEE Transactions on Pattern Analysis and Machine Intelligence (2023)
- [2] *Progressive Training of A Two-Stage Framework for Video Restoration*  
Qunliang Xing, Meisong Zheng, Minglang Qiao, Mai Xu, Lai Jiang, Huaida Liu, Ying Chen  
IEEE / CVF Computer Vision and Pattern Recognition (CVPR) Workshops (2022)  
Technical report of our winning method in the NTIRE challenge.
- [3] *DeepQTMT: A Deep Learning Approach for Fast QTMT-Based CU Partition of Intra-Mode VVC*  
Tianyi Li, Mai Xu, Runzhi Tang, Ying Chen, Qunliang Xing  
IEEE Transactions on Image Processing (2021)
- [4] Patent CN111415311: *Resource-saving Image Quality Enhancement Model*  
Mai Xu, Qunliang Xing, Zhenyu Guan  
China National Intellectual Property Administration (2020)
- [5] *Early Exit Or Not: Resource-Efficient Blind Quality Enhancement for Compressed Images*  
Qunliang Xing, Mai Xu, Tianyi Li, Zhenyu Guan  
European Conference on Computer Vision (2020)

[6] *MFQE 2.0: A New Approach for Multi-Frame Quality Enhancement on Compressed Video*  
 Qunliang Xing, Zhenyu Guan, Mai Xu, Ren Yang, Tie Liu, Zulin Wang  
 IEEE Transactions on Pattern Analysis and Machine Intelligence (2019)  
 Highly cited paper (Top 1%) by Essential Science Indicators (ESI).

## *Work Experience*

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| <b>Reviewer</b>  | Feb. 2021 – Present    |
| IEEE Journals and Conferences  |                        |
| • IEEE TIP, IEEE TMM, IEEE TCSVT, IEEE/CAA JAS, IEEE ICME                  |                        |
| <b>Research Intern</b>   | Dec. 2021 – Present    |
| Tao Technology, Alibaba Group  |                        |
| • Video quality enhancement for Taobao Live.                               |                        |
| • Winning two championships and one runner-up in the NTIRE 2022 challenge. |                        |
| <b>Participant in Tencent Rhino-bird Open-Source Training Program</b>      | July 2021 – Sept. 2021 |
| Tencent  |                        |
| • Selected among the top 127 out of 1,800+ candidates.                     |                        |
| <b>Mentor of Undergraduates</b>  | Oct. 2020 – Oct. 2021  |
| Shen Yuan Honors College, Beihang University                               |                        |
| • Awarded the Shen Yuan Excellent Mentor (Top 9/36).                       |                        |
| <b>Teaching Assistant</b>  | Sept. 2020 – Jan. 2021 |
| Beihang University   |                        |
| • <i>Introduction to Machine Learning.</i>                                 |                        |
| <b>Research Intern</b>   | Dec. 2018 – Dec. 2019  |
| 2012 Lab, Huawei   |                        |
| • Video quality enhancement for HW265 codec.                               |                        |
| • Improving the RD performance of HW265 by 10%.                            |                        |

## *Awards & Honors*

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|--|------------------------|
| <b>Two Championships and One Runner-up</b>   |                        |
| NTIRE Challenge on Super-Resolution and Quality Enhancement of Compressed Video    | 2022                   |
| <b>Glarun Scholarship</b>  |                        |
| The 14TH Research Institute, China Electronics Technology Group Corporation (CETC) | 2022                   |
| <b>Beihang Outstanding/Merit Student</b>   |                        |
| Beihang University   | 2022, 2021, 2018, 2015 |
| <b>Second Place in the 100m Final</b>  |                        |
| Beihang Sports Day, Beihang University   | 2022                   |
| <b>Shen Yuan Excellent Mentor</b>  |                        |
| Shen Yuan Honors College, Beihang University                                       | 2021                   |
| <b>Beihang Excellent Graduate</b>  |                        |
| Beihang University   | 2019                   |
| <b>Soccer Championship (Starting CB)</b>   |                        |
| Beihang Sports Festival, Beihang University  | 2017                   |
| <b>Shenzhen Merit Student</b>  |                        |
| Education Bureau of Shenzhen Municipality  | 2014                   |