

CHENGZHI CAO

Email: chengzhicao@mail.ustc.edu.cn | [Homepage](#)

EDUCATION

University of Science and Technology of China

School of Information Science and Technology

South China University of Technology

Bachelor of Technology in Electrical Engineering and Automation

• Overall GPA: 3.85/4.0 Rank: 6th/261

Project 985 & 211, Anhui, China

2021.9 - Present

Project 985 & 211, Guangdong, China

2017.9 - 2021.6

HONORS

- National Scholarship (top1%, highest scholarship from Ministry of Education of China) 2018
- National Scholarship (top1%, highest scholarship from Ministry of Education of China) 2019
- National Scholarship (top1%, highest scholarship from Ministry of Education of China) 2020
- First Prize in RoboMaster University League 2020

RESEARCH INTERESTS

Video Restoration (deblurring and super-resolution), bayes learning and bio-inspired Intelligence (event camera)

PUBLICATIONS

[1] Event-driven Video Deblurring via Spatio-Temporal Relation-Aware Network

Chenzhi Cao, Xueyang Fu*, Yurui Zhu, Gege Shi, Zheng-jun Zha

IJCAI (Long Oral paper, Acceptance Rate<3.75%). Apr. 2022 [[Paper](#)] [[Code](#)]

[2] Single Image Shadow Detection via Complementary Mechanism

Yurui Zhu, Xueyang Fu*, Chenzhi Cao, Xi Wang, Qibin Sun, Zheng-jun Zha

Proceedings of the 30th ACM International Conference on Multimedia (ACM MM). Jun. 2022 [[Paper](#)][[Code](#)]

[3] Event-guided Video Restoration with Spiking-Convolutional Architecture

Chenzhi Cao, Xueyang Fu*, Yurui Zhu, Zhijing Sun, Zheng-jun Zha

Submit to IEEE Transactions on Neural Networks and Learning Systems (Under Review), Sep. 2022

[4] Event-guided Video Super-resolution via Stereo Graph Modeling

Xueyang Fu, Chenzhi Cao, Zheng-jun Zha

Submit to IEEE Transactions on Image Processing (Under Review), Jun. 2022

RESEARCH EXPERIENCE

Bio-inspired Video Restoration With Guidance of Events

University of Science and Technology of China

Sep. 2021 - Present

Advisors: Prof. [Xueyang Fu](#) and [Zhengjun Zha](#)

- Propose a spatio-temporal relation-aware network for event-driven video deblurring, and achieve better performance through fusing features of frames and events properly.
- Propose a spiking neural temporal memory module by capturing long-term relations of event sequences.
- Extracts the spatial correlation between frames and events to exploit the complementary information from them.
- Extensive experiments show that our method achieves the SOTA performance on banchmark of GoPro and HQF.

Low-quality Video Detection and Filtering

Tencent, Shenzhen

March. 2021 - July. 2021

Advisors: Prof. [Kwok Wai Hung](#) and [Simon Lui](#)

- Design a multi-scale structure to take advantage of inter-scale correlation for video super-resolution in QQ Music, optimize it by removing unnecessary modules to simplify the network architecture.
- Smoke Detection. Identify the key points of multiple faces, and use them to locate the user's mouth; calculate the matching parameters between the cigarette and mouth. This project is now under implementation.
- Patent Application Number: 2021111598150, 2021109153727, 2021107976749

SKILLS

Programming: Python (Pytorch, Opencv), LATEX, Matlab, Microsoft Office

English: GRE (V158+Q170+AW3.5)