

Zhihong Zhang

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Education

Tsinghua University, Department of Automation

PHD STUDENT IN CONTROL SCIENCE AND ENGINEERING

- Advisor: Prof. Jinli Suo

Beijing, China

2019 - present

Xidian University, School of Electronics Engineering

BACHELOR OF ELECTRONICS AND INFORMATION ENGINEERING

- Thesis advisor: Prof. Jie Li. GPA 3.88/4.0, ranking 1/224

Xi'an, China

2015 - 2019

Research Interests

Computational Imaging: Combine optical imaging systems and computer vision algorithms (optimization, deep learning, etc.) to bridge the gap between image acquisition, image processing, and image understanding, and realize a performance boost compared with optics-only or algorithm-only methods. Specifically, I focus on snapshot compressive imaging, coded exposure imaging, low-light imaging, and relevant low-level vision tasks including deblurring, denoising, etc.

Publications

RESEARCH ARTICLES

- [1] **Zhihong Zhang**, Yuxiao Cheng, Liheng Bian, Jinli Suo, and Qionghai Dai. INFWide: Image and Feature Space Wiener Deconvolution Network for Non-blind Image Deblurring in Low-Light Conditions. *IEEE Transactions on Image Processing* (2023).
- [2] Yuxiao Cheng, Runzhao Yang, **Zhihong Zhang**, Jinli Suo, and Qionghai Dai. A Mutually Boosting Dual Sensor Computational Camera for High Quality Dark Videography. *Information Fusion* (2023).
- [3] Bo Zhang, Yuchen Guo, Runzhao Yang, Jiayi Xie, **Zhihong Zhang**, Jinli Suo, and Qionghai Dai. DarkVision: A Benchmark for Low-light Image/Video Perception. *Under review* (2023).
- [4] **Zhihong Zhang***, Bo Zhang*, Xin Yuan*, Siming Zheng, Xiongfei Su, Jinli Suo, David Brady, and Qionghai Dai. From Compressive Sampling to Compressive Tasking: Retrieving Semantics in Compressed Domain with Low Bandwidth. *Photonix* (2022).
- [5] Bo Zhang*, Xin Yuan*, Chao Deng, **Zhihong Zhang**, Jinli Suo, and Qionghai Dai. End-to-end snapshot compressed super-resolution imaging with deep optics. *Optica* (2022).
- [6] **Zhihong Zhang***, Chao Deng*, Yang Liu, Xin Yuan, Jinli Suo, and Qionghai Dai. Ten-Mega-Pixel Snapshot Compressive Imaging with A Hybrid Coded Aperture. *Photonics Research* (2021).
- [7] **Zhihong Zhang**, Jinli Suo, Qionghai Dai. Denoising of event-based sensors with deep neural networks. *SPIE/COS Photonics Asia* (2021).
- [8] Weihang Zhang, **Zhihong Zhang**, Liheng Bian, Haoqian Wang, Jinli Suo, Qionghai Dai. High axial resolution single molecule localization under dense excitation with a multi-channel deep U-Net. *Optics Letters* (2021).

Honors and Awards

Honors: Outstanding Bachelor's Thesis of Xidian University (2019), Outstanding Graduate of Xidian University (2019), Outstanding Student of Xidian University (2016, 2017 & 2018)

Scholarships: Hefei Government Scholarship (2022), Xuancheng Government Scholarship (2021), National Scholarship (2017), National Endeavor Scholarship (2016 & 2018), First-class Scholarship for Freshmen (2015).

Competitions: Second Prize in the 15-th “Challenge Cup” Technological Innovation Competition (2017), Gold Award and Best Popularity Award in the 3-rd China College Students’ “Internet +” Innovation and Entrepreneurship Competition (top 5, 2017), First Prize in Shaanxi Province “FLTRP Cup” English Reading Contest (top 10, 2017)

Research Projects

- 2016-2017 **Smart-Wing: Intelligent Tilting Wing Vertical Take-Off and Landing Unmanned Aerial Vehicle**, algorithm design, system integration and test
- 2015-2016 **Intelligent Water Level Identification System**, algorithm design

Teaching Experience

Computer Language and Programming (using C) lectured by Prof. Jinli Suo
TEACHING ASSISTANT

TSINGHUA UNIVERSITY
Spring & Fall 2020

Academic Service

Reviewer: IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), Optics Express (OE), Photonics Research (PR), The Journal of the Optical Society of America A (JOSA A).

Skills

Programming Languages: Python (Pytorch), MATLAB, C.

Natural Languages: Chinese (native) and English.

Interests

Sports: Ping pong, badminton, running, and hiking.

Hobbies: Reading and photography.