# Zhihong Zhang

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## Education

**Tsinghua University, Department of Automation** — *Beijing, China*
PhD student in Control Science and Engineering — *2019 - present*
- Advisor: Prof. Jinli Suo

**Xidian University, School of Electronics Engineering** — *Xi'an, China*
Bachelor of Electronics and Information Engineering — *2015 - 2019*
- Thesis advisor: Prof. Jie Li. GPA 3.88/4.0, ranking 1/224

## 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). **IF: 11.0**

[2] **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). **IF: 19.8**

[3] **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). **IF: 7.3**

[4] **Zhihong Zhang**, Jinli Suo, Qionghai Dai. Denoising of event-based sensors with deep neural networks. ***Photonics Asia* (2021).**

[5] **Zhihong Zhang**, Runzhao Yang, Yuxiao Cheng, Jinli Suo, and Qionghai Dai. Lightweight High-Speed Photography Built on Coded Exposure and Implicit Neural Representation of Videos. ***International Journal of Computer Vision*** (Under review) (2023). **IF: 13.4**

[6] **Zhihong Zhang**, Kaiming Dong, Jinli Suo, and Qionghai Dai. Deep coded exposure: end-to-end co-optimization of flutter shutter and deblurring processing for general motion blur removal. ***Photonics Research*** (2023). **IF: 7.3**

[7] 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). **IF: 17.6**

[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). **IF: 3.6**

[9] 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). **IF: 10.6**

[10] Bo Zhang, Yuchen Guo, Runzhao Yang, Jiayi Xie, **Zhihong Zhang**, Jinli Suo, and Qionghai Dai. DarkVision: A Benchmark for Low-light Image/Video Perception. ***IEEE Transactions on Neural Networks and Learning Systems*** (Under review) (2023). **IF: 14.3**

## 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** *TSINGHUA UNIVERSITY*

Teaching Assistant *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.