

# Zhihong Zhang

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## Education

### Tsinghua University

PHD STUDENT IN CONTROL SCIENCE AND ENGINEERING

- Advisor: Prof. Jinli Suo

Beijing, China

2019 - present

### Xidian University

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 compressive imaging (coded aperture imaging, high-throughput imaging) and relevant low-level and high-level tasks.

## Publications

### JOURNAL 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. **Under review** (2022).
- [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** doi: 10.1186/s43074-022-00065-1 (2022).
- [3] **Zhihong Zhang\***, Chao Deng\*, Yang Liu, Xin Yuan, Jinli Suo, and Qionghai Dai. 10 Mega Pixel Snapshot Compressive Imaging with A Hybrid Coded Aperture. **Photonics Research** doi: 10.1364/PRJ.435256 (2021).
- [4] **Zhihong Zhang**, Jinli Suo, Qionghai Dai. Denoising of event-based sensors with deep neural networks. **SPIE/COS Photonics Asia 2021** doi: 10.1117/12.2602742 (2021).
- [5] 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** doi: 10.1364/OL.441536 (2021).
- [6] Yuxiao Cheng, Runzhao Yang, **Zhihong Zhang**, Jinli Suo, and Qionghai Dai. A Mutually Boosting Dual Sensor Computational Camera for High Quality Dark Videography. **Under review** (2022).
- [7] 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** doi: 10.1364/OPTICA.450657 (2022).
- [8] 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** (2022).

## 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:** 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

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- 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

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

TSINGHUA UNIVERSITY  
Spring & Fall 2020

## Skills

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**Programming Languages:** MATLAB, Python, C.

**Natural Languages:** Chinese (native) and English.

## Interests

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

**Hobbies:** Reading and photography.