

# ZIHAO W. WANG

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## EDUCATION

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**Northwestern University** 2015 - 2020  
*Ph.D. student in Computer Science (computer vision and machine learning)* Evanston, IL  
Thesis: Synergy of physics and learning-based models in computational imaging and display  
Advisor: Dr. Oliver Cossairt  
Experience: 3D imaging & display, event-based vision, residual learning, auto encoders

**Zhejiang University** Chu Ko-chen Honors College 2011 - 2015  
*B.Eng. in Optics, GPA: 3.9/4* Hangzhou, China  
Thesis: Hamiltonian ray tracing for gradient index lens. (completed at MIT)  
Experience: color science, human visual perception, BRDF

## INTERNSHIPS

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**Peking University** 06/2019 - 09/2019  
*Visiting student, Dr. Boxin Shi* Shenzhen, China  
· Prototyped a novel computational imaging system based on an event camera.

**Apple Inc.** 01/2019 - 05/2019  
*Display engineering intern, Incubation* Cupertino, CA  
· Studied the human perception of depth.  
· Developed a simulation tool for perceptual effect by AR display.

**Microsoft Research** 06/2018 - 09/2018  
*Research intern, Dr. Sing Bing Kang* Redmond, WA  
· Designed a privacy-preserving action recognition system using a lens-free coded aperture camera.

**Light Labs Inc.** 04/2017 - 08/2017  
*Research intern* Palo Alto, CA  
· Contributed to the deployment of color calibration software. Improved color rendering performance.

## COMPUTER SKILLS

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<b>Programming</b>	Python, Tensorflow, MATLAB, C++
<b>Graphics</b>	Adobe Illustrator/Photoshop/After Effects/Premiere Pro, Unity

## SELECTED PUBLICATIONS

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Refereed conference proceedings

3. **Joint filtering of intensity images and neuromorphic events for high-resolution noise-robust imaging** ZW. Wang, P. Duan, O. Cossairt, A. Katsaggelos, T. Huang, B. Shi, The IEEE Conference on Computer Vision and Pattern Recognition (CVPR), June 2020. (22% acc. rate)
2. **Event-driven video frame synthesis** ZW. Wang, W. Jiang, K. He, B. Shi, A. Katsaggelos, O. Cossairt, The IEEE International Conference on Computer Vision (ICCV) Workshops, November 2019. (Oral presentation)

1. **Privacy-preserving action recognition using coded aperture videos** ZW. Wang, V. Viineet, F. Pittaluga, S. Sinha, O. Cossairt, SB. Kang, The IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, June 2019. (Oral presentation.)

Refereed journals

6. **Snapshot multifocal light field microscopy** K. He, X. Wang, ZW. Wang, H. Yi, NF. Scherer, AK. Katsaggelos, and O. Cossairt, Optics Express (accepted) (doi: 10.1364/OE.390719)
5. **Computational multifocal microscopy** K. He, Z. Wang, X. Huang, X. Wang, S. Yoo, P. Ruiz, I. Gdor, A. Selewa, NJ. Ferrier, N. Scherer, M. Hereld, A. Katsaggelos, O. Cossairt, Biomedical Optics Express 9, 6477-6496 (2018) (doi: 10.1364/BOE.9.006477)
4. **Gloss evaluation from soft and hard metrologies** Z. Wang, L. Xu, Y. Hu, F. Mirjalili, and MR. Luo, J. Opt. Soc. Am. A 34, 1679-1686 (2017) (doi: 10.1364/JOSAA.34.001679)
3. **Subsampled phase retrieval for temporal resolution enhancement in lensless on-chip holographic video** Z. Wang, D. Ryu, K. He, G. Zheng, R. Horstmeyer, and O. Cossairt, Biomedical Optics Express 8, 1981-1995 (2017) (doi: 10.1364/BOE.8.001981)
2. **Compressive holographic video** Z. Wang, L. Spinoulas, K. He, L. Tian, O. Cossairt, AK. Katsaggelos, and H. Chen, Optics Express 25, 250-262 (2017) (doi: 10.1364/OE.25.000250)
1. **Looking into special surface effects: glint impression and diffuse coarseness** ZW. Wang, MR. Luo, Coloration Technology, 132: 153-161 (2016) (doi: 10.1111/cote.12203)

## SELECTED AWARDS & SCHOLARSHIPS

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CKC-Harvard-MIT undergraduate thesis fellowship, Zhejiang University (\$ 10,000)	2014-2015
Excellent Student Awards, Zhejiang University	2011-2013

## TEACHING

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EECS 395/495 Intro to Computational Photography (TA)	Fall 2016
EECS 110 Intro to Python (TA)	Winter 2017, 2018
ELEC.ENG 395/495: Computational Photography Seminar (guest lecturer)	Winter 2020

## SERVICE & ACTIVITIES

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<b>Leadership</b>	Founding member of CSPAC, Northwestern University 2017; Founder of a Chinese theatre club at Northwestern University (SIGTheater)
<b>Volunteer</b>	IEEE International Conference on Computational Photography (ICCP) 2016, 2017
<b>Reviewer</b>	OSA: Optics Letters, Optics Express, Applied Optics, JOSA A, Continuum; <i>IEEE</i> : Transactions on Computational Imaging; <i>IS&amp;T</i> : Journal of Imaging Science and Technology