

# Luzhe Huang

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## EDUCATION

Sep. 2019 - Now    **MS/PhD**    ECE Department, University of California, Los Angeles  
 Instructor: Aydogan Ozcan, GPA: 3.96/4.00

Sep. 2015 - Jun. 2019    **Bachelor of Engineering (BEng)**    CKC Honors College, Zhejiang University, China  
 Major: Opto-Electronics Information Science and Engineering, Minor: Statistics, GPA: 3.96/4.00.

## EXPERIENCE

Sep. 2021 - Now    **HHMI REU Mentor**    UCLA

Apr. 2020 - June 2020    **Grader for ECE115C**    UCLA

Sep. 2019 - Dec. 2019    **Grader for ECE241A**    UCLA

Feb. 2019 - Jun. 2019    **Software R&D Engineer**    Autowise.ai

Jul. 2018 - Aug. 2018    **Summer Research Intern**    Boston University

Jul. 2017 - Jul. 2017    **SENG Summer Camp**    Hong Kong University of Science and Technology

Feb. 2016 - June 2016    **Student Tutor for Calculus**    Zhejiang University

## PUBLICATIONS

### JOURNALS

1. Y. Zhang, **L. Huang**<sup>1</sup>, et al. Virtual Staining of Defocused Autofluorescence Images of Unlabeled Tissue Using Deep Neural Networks. *Intelligent Computing* 2022, 9818965;
2. H. Chen, **L. Huang**<sup>??</sup>, et al. Fourier Imager Network (FIN): A deep neural network for hologram reconstruction with superior external generalization. *Light: Sci. Appl.* 11, 254 (2022);
3. **L. Huang**, X. Yang, et al. Few-shot Transfer Learning for Holographic Image Reconstruction using a Recurrent Neural Network. *ACS Photonics* 2022, 7, 070801;
4. X. Yang, **L. Huang**<sup>??</sup>, Y. Luo, et al. Deep-learning-based virtual refocusing of images using an engineered point-spread function. *ACS Photonics* 2021, 8, 7, 2174-2182;
5. **L. Huang**, T. Liu, et al. Holographic image reconstruction with phase recovery and autofocusing using recurrent neural networks. *ACS Photonics* 2021, 8, 6, 1763-1774;
6. **Huang, L.**, Chen, H., Luo, Y. et al. Recurrent neural network-based volumetric fluorescence microscopy. *Light Sci. Appl.* 10, 62 (2021);
7. Y. Luo, **L. Huang**<sup>??</sup>, Y. Rivenson, A. Ozcan, Single-shot autofocusing of microscopy images using deep learning. *ACS Photonics*, 2021, 8, 2, 625-638;
8. **L. Huang**, Y. Fu, R. Chen, et al. SNR-adaptive OCT angiography enabled by statistical characterization of intensity and decorrelation based on multi-variate time series model. *IEEE Trans. Med. Imaging*, vol. 38, no. 11, pp. 2695-2704, Nov. 2019;
9. **L. Huang**, X. Wang, Y. Yuan, S. Gu, Y. Shen, An improved algorithm of NLOS imaging based

<sup>1</sup>Co-first author

- on Bayesian statistics. *JOSA.A* 36(5), 834-838, 2019;
10. **L. Huang**, T. Fang, Q. Shuai, Calibration and imaging of a CT system, *Chinese Journal of Engineering Mathematics*. Vol. 34, Supp. 1, 2017;

## CONFERENCES

1. Luzhe Huang, Xilin Yang, Tairan Liu, Aydogan Ozcan, "Few-shot generalizable hologram reconstruction model using a recurrent neural network (RNN) (Conference Presentation)," Proc. SPIE PC12204, Emerging Topics in Artificial Intelligence (ETAI) 2022, PC122040H (4 October 2022);
2. X. Yang, L. Huang, Y. Luo, Y. Wu, H. Wang, Y. Rivenson, and A. Ozcan, "3D Virtual Refocusing of Point Spread Function (PSF) Engineered Images Using Cascaded Neural Networks," in Conference on Lasers and Electro-Optics, Technical Digest Series (Optica Publishing Group, 2022), paper STh5J.5;
3. L. Huang, T. Liu, X. Yang, Y. Luo, Y. Rivenson, and A. Ozcan, "Phase Recovery and Holographic Imaging using Recurrent Neural Networks (RNNs)," in Conference on Lasers and Electro-Optics, Technical Digest Series (Optica Publishing Group, 2022), paper ATh1D.5;
4. Luzhe Huang, Tairan Liu, Xilin Yang, Yi Luo, Yair Rivenson, Aydogan Ozcan, "Holographic image reconstruction with phase recovery and autofocusing using recurrent neural networks," Proc. SPIE 11970, Quantitative Phase Imaging VIII, 119700C (2 March 2022);
5. X. Yang, **L. Huang**, Y. Luo, Y. Wu, H. Wang, Y. Rivenson, and A. Ozcan "Three-dimensional virtual refocusing of point-spread function engineered images using cascaded neural networks", Proc. SPIE PC12019, AI and Optical Data Sciences III, PC1201906 (9 March 2022);
6. X. Yang, **L. Huang**, Y. Luo, Y. Wu, H. Wang, Y. Rivenson, and A. Ozcan "Virtual refocusing of fluorescence images using an engineered point-spread function and deep learning", Proc. SPIE 11804, Emerging Topics in Artificial Intelligence (ETAI) 2021, 1180425 (1 August 2021);
7. **L. Huang**, H. Chen, Y. Luo, Y. Rivenson, and A. Ozcan "Convolutional recurrent neural network-enabled volumetric fluorescence imaging", Proc. SPIE 11804, Emerging Topics in Artificial Intelligence (ETAI) 2021, 1180411 (1 August 2021);
8. **L. Huang**, Y. Luo, Y. Rivenson, and A. Ozcan, "Neural network-based single-shot autofocusing of microscopy images," in Conference on Lasers and Electro-Optics (CLEO), OSA Technical Digest (Optica Publishing Group, 2021), paper ATu4L.2.
9. **L. Huang**, Y. Luo, Y. Rivenson, and A. Ozcan, "Volumetric fluorescence microscopy using convolutional recurrent neural networks," in Conference on Lasers and Electro-Optics (CLEO), OSA Technical Digest (Optica Publishing Group, 2021), paper STh2D.3.
10. **L. Huang**, Y. Luo, Y. Rivenson, and A. Ozcan "Deep learning-based single-shot autofocusing of microscopy images", Proc. SPIE 11647, Imaging, Manipulation, and Analysis of Biomolecules, Cells, and Tissues XIX, 116470Y (5 March 2021);
11. **L. Huang**, Y. Luo, Y. Rivenson, and A. Ozcan "Deep-learning-based volumetric imaging in fluorescence microscopy", Proc. SPIE 11649, Three-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing XXVIII, 116490G (5 March 2021);

## AWARDS

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<i>Jun. 2019</i>	<b>Zhejiang University Top 10 Student Research Nomination</b>
<i>Nov. 2018</i>	<b>Chu Kochen College Innovation Scholarship</b>
<i>Oct. 2018</i>	<b>Zhejiang University Special Scholarship (Supreme award for Undergraduates)</b>
	<b>Lixin Tang Scholarship</b>
<i>Nov. 2017</i>	<b>Chu Kochen College Innovation Scholarship</b>
<i>Oct. 2017</i>	<b>National Scholarship</b>
	<b>The First Prize Scholarship</b>

<i>Sep. 2017</i>	<b>MATLAB Innovation Prize (Special Prize) in China Undergraduate Mathematical Contest in Modeling</b>
<i>Dec. 2016</i>	<b>The First Prize of Physics Innovation Contest in Zhejiang Province</b>
<i>Oct. 2016</i>	<b>National Scholarship</b>
	<b>The First Prize Scholarship</b>
	<b>The First Prize of National Mathematic Contest</b>