

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

Sep. 2019 - Now **Graduate Student Researcher** 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

PUBLICATIONS

JOURNALS

1. H. Chen, **L. Huang**¹, et al. eFIN: Enhanced Fourier Imager Network for Generalizable Autofocusing and Pixel Super-Resolution in Holographic Imaging. *IEEE JSTQE*, vol. 29, no. 4: Biophotonics, pp. 1-10, July-Aug. 2023;
2. Y. Zhang, **L. Huang**¹, et al. Virtual Staining of Defocused Autofluorescence Images of Unlabeled Tissue Using Deep Neural Networks. *Intelligent Computing* 2022, 9818965;
3. H. Chen, **L. Huang**¹, et al. Fourier Imager Network (FIN): A deep neural network for hologram reconstruction with superior external generalization. *Light: Sci. Appl.* 11, 254 (2022);
4. **L. Huang**, X. Yang, et al. Few-shot Transfer Learning for Holographic Image Reconstruction using a Recurrent Neural Network. *ACS Photonics* 2022, 7, 070801;
5. X. Yang, **L. Huang**¹, Y. Luo, et al. Deep-learning-based virtual refocusing of images using an engineered point-spread function. *ACS Photonics* 2021, 8, 7, 2174-2182;
6. **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;
7. **L. Huang**, H. Chen, Y. Luo, et al. Recurrent neural network-based volumetric fluorescence microscopy. *Light Sci. Appl.* 10, 62 (2021);
8. Y. Luo, **L. Huang**¹, Y. Rivenson, A. Ozcan, Single-shot autofocusing of microscopy images using deep learning. *ACS Photonics*, 2021, 8, 2, 625-638;
9. **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;

¹Co-first author

10. **L. Huang**, X. Wang, Y. Yuan, S. Gu, Y. Shen, An improved algorithm of NLOS imaging based on Bayesian statistics. *JOSA.A* 36(5), 834-838, 2019;
11. **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. **L. Huang**, X. Yang, T. Liu, A. 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. **L. Huang**, T. Liu, X. Yang, Y. Luo, Y. Rivenson, A. 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);

SERVICES

- Reviewer for *IEEE Photonics Journal*
- Reviewer for *Biomedical Optics Express*
- Reviewer for *Optics Express*
- Reviewer for *JOSA.A*

AWARDS

Jul. 2023

UCLA Dissertation Year Fellowship

<i>Sep. 2022</i>	Amazon Doctoral Student Fellowship
<i>Sep. 2019</i>	UCLA ECE Department Fellowship
<i>Oct. 2018</i>	Zhejiang University Special Scholarship (Supreme award for Undergraduates)
<i>Nov. 2017</i>	Zhejiang University Chu Kochen College Innovation Scholarship
<i>Oct. 2017</i>	National Scholarship
<i>Sep. 2017</i>	MATLAB Innovation Prize (Special Prize) in China Undergraduate Mathematical Contest in Modeling
<i>Oct. 2016</i>	National Scholarship