

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. **L. Huang**, H. Chen, et al. Self-supervised learning of hologram reconstruction using physics consistency. *Nat. Mach. Intell.* (2023). <https://doi.org/10.1038/s42256-023-00704-7>
2. 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;
3. Y. Zhang, **L. Huang**¹, et al. Virtual Staining of Defocused Autofluorescence Images of Unlabeled Tissue Using Deep Neural Networks. *Intelligent Computing* 2022, 9818965;
4. 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);
5. **L. Huang**, X. Yang, et al. Few-shot Transfer Learning for Holographic Image Reconstruction using a Recurrent Neural Network. *ACS Photonics* 2022, 7, 070801;
6. 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;
7. **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;
8. **L. Huang**, H. Chen, Y. Luo, et al. Recurrent neural network-based volumetric fluorescence microscopy. *Light Sci. Appl.* 10, 62 (2021);
9. 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;
10. **L. Huang**, Y. Fu, R. Chen, et al. SNR-adaptive OCT angiography enabled by statistical char-

¹Co-first author

- acterization of intensity and decorrelation based on multi-variate time series model. *IEEE Trans. Med. Imaging*, vol. 38, no. 11, pp. 2695-2704, Nov. 2019;
11. **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;
 12. **L. Huang**, T. Fang, Q. Shuai, Calibration and imaging of a CT system, *Chinese Journal of Engineering Mathematics*. Vol. 34, Supp. 1, 2017;

CONFERENCES (SELECTED)

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. **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 AT1D.5;
3. **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);
4. **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.
5. **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.
6. **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);

SERVICES

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

AWARDS

<i>Jul. 2023</i>	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