Yijie Zhang

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Homepage

EDUCATION

University of California Los Angeles, Los Angeles, CA — Sep. 2018 – Exp. Apr. 2020

M.S. in Electrical Engineering

Zhejiang University, Hangzhou, China — Sep. 2014 – June. 2018

B.E. in Opto-Electronics Information Science and Engineering

RESRARCH INTEREST

Computational Imaging, Biomedical Imaging, Machine Learning, Digital Pathology

RESEARCH EXPERIENCE

University of California, Los Angeles — Apr. 2018 – Exp. Apr. 2020
Graduate Research Student, Virtual Staining

- Implemented Image preprocessing such as image registration on several datasets.
- Designed a neural network for virtual multi staining, staining blending and capturing microstructures of staining tissues.
- Optimized the state-of-the-art system for virtual staining to get credible inference results for pathologist's clinical diagnosis.

Zhejiang University — Mar. 2018 – May 2020
Undergraduate Research Student, Invisibility Cloak with Optical Surface Transformation

- Designed and simulated structure of the device by COMSOL, Fabricated the device and waveguide.
- Set up testing system, tested the device and documented the device's performance in different fields

University of Notre Dame — Jul. 2018 – Aug. 2020
Summer Research Student, Photo-Induced Terahertz Circuit

- Designed structure of the optical tuning EBG circuit, and optimized it with HFSS
- Built the optimized circuit and did some tests by VNA

PROJECTS

Deep optics beyond reconstruction — Oct. 2018 – Exp. Jan. 2020

- Built a differentiable optical image formation model and optimize the optical model with Unet on NYU Depth-v2 dataset to get depth encoded images.
- Continued the deep optics model with high level application, which is still in progress.

PUBLICATIONS

- K. de haan*, **Y. Zhang***, J. Li, Y. Rivenson, and A. Ozcan, "Virtual histological staining for clinical diagnosis in Kidney Transplant ". In Progress
- **Y. Zhang***, K. de haan*, Y. Rivenson*, J. Li and A. Ozcan, "Multi Virtual histological Staining, Staining Blending and Staining for Microstructure". *Light: Science & Applications*. Under Review. arXiv:2001.07267
- **Y. Zhang**, A. Echeberriaa, T. Zhoua and B. Jalali, " Comparison of Optoelectronic Reservoir Computing and LSTM," Poster, *Photonics West 2020*, accepted.
- F. Sun*, **Y. Zhang***, J. Evans, and S. He, "A Camouflage Device Without Metamaterials," *Progress In Electromagnetics Research*, Vol. 165, 107-117, 2019.
- P. Cataldi, J. Guerrero, S. Puyol, L. Ceseracciu, L. Notte, A. Reale, **Y. Zhang**, et al. "Sustainable electronics based on crop plant extracts and graphene: A "bioadvantaged" approach, " *Advanced Sustainable Systems*, vol. 2, no. 8, 2018.

Skills

Programming languages and Framework — Python, C, JAVA, MATLAB, TensorFlow

Simulation Software — HFSS, ZMAX, COMSOL, AutoCAD, SolidWorks