CHI-JUI (JERRY) HO

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OBJECTIVE

Summer intern on computational imaging, medical imaging, or camera developement.

EDUCATION

Ph.D. of Electrical and Computer Engineering, UC San Diego   2020-
GPA: 3.90/4.00
Passed preliminary exam in Jun 2022.
Relevant courses (all A): Physic Optics and Fourier Optics, Digital Signal Processing, and Statistical Learning
Advisor: Nick Antipa

Bachelor of Electrical Engineering, National Taiwan University   2015 - 2019
GPA: 3.88/4.30
First prize of undergraduate innovation award
Relevant courses (all A or A+): Computer Vision, Machine Learning, Mathematical Principle of Machine Learning, Deep Learning on Computer Vision, and Convex Optimization
Advisor: Homer H. Chen

PUBLICATION

- C.-J. Ho, S. Duong, Y. Wang, C. Nguyen, B.Bui, S. Truong, T. Nguyen, and C. An, "An Unsupervised Learning Approach to 3D Rectal MRI Volume Registration," in *IEEE Access*, vol. 10, pp. 87650-87660, 2022, doi: 10.1109/ACCESS.2022.3199379.

- C.-J. Ho, M. Valentine, W. Xiong, and N. Antipa, "Compressed Sensing of 2D IR Using Spectroscopic Models," in *International Conference on Coherent Multidimensional Spectroscopy*, 2022.

- C.-J. Ho, Y. Wang, J. Zhang, T. Nguyen, and C. An, "A Convolutional Neural Network Pipeline for Multi-Temporal Retinal Image Registration," in *International SoC Design Conference*, 2021.

- C.-J. Ho, M. Calderon-Delgado, M.-Y. Lin, J.-W. Tjiu, S.-L. Huang, and H. H. Chen, "Classification of Squamous Cell Carcinoma from FF-OCT Images: Data Selection and Progressive Model Construction," in *Computerized Medical Imaging and Graphics* 93 (2021): 101992.

- C.-J. Ho, M. Calderon-Delgado, C.-C. Chan, M.-Y. Lin, J.-W. Tjiu, S.-L. Huang, and H. H. Chen, "Detecting mouse squamous cell carcinoma from submicron full-field optical coherence tomography images by deep learning," in *Journal of Biophotonics*, 2020.

- C.-J. Ho, C.-C. Chan, and H. H. Chen, "AF-Net: A Convolutional Neural Network Approach to Phase Detection Autofocus," in *IEEE Transactions on Image Processing*, vol. 29, pp. 6386-6395, 2020.

- C.-J. Ho and H. H. Chen, "On the Distinction between Phase images and Two-View Light Field for PDAF of Mobile Imaging," in *Electronic Imaging*, 2020.

EXPERIENCE

Graduate Student Researcher	Sep 2020 -
Computational Imaging System Lab, UCSD	*San Diego, CA*
Graduate Student Researcher	Sep 2020 - Mar 2022
Video Processing Lab, UCSD	*San Diego, CA*
Research Assistant	Jul 2019 - Mar 2020
Multimedia Processing and Communications Lab, NTU	*Taipei, Taiwan*
Undergraduate Researcher	Sep 2017 - Jun 2019
Multimedia Processing and Communications Lab, NTU	*Taipei, Taiwan*

Summer Intern   Jul 2018 - Aug 2018
Department of Multimedia, Mediatek   *Hsinchu, Taiwan*

PROJECTS

Differentiable Wave Optics. We develop a differentiable ray tracer for wave optics propagation, with a focus on joint optimization of optical system and data reconstruction.

Compressed Sensing on 2D IR Spectrum Reconstruction. We increase the efficiency of 2D IR data collection by jointly optimizing the sampling strategy and reconstruction.

Deep Neural Network Approach to Phase Detection Autofocus. Conventional PDAF algorithms easily fails on noisy data. The proposed AF-Net enhances the robustness and completes the autofocus in 2 lens movements.

Unsupervised Learning for MRI Image Registration. Our unsupervised learning based registration framework yields accurate alignment between multi-session rectal data. It works without the assumption of one-to-one correspondences.

Deep Learning on OCT Image Classification. Our full-field OCT machine is able to capture cellular level information, thereby facilitates the development of a deep learning algorithm for SCC stage classification.

HONOR & AWARDS

Department Fellowship   Oct. 2020 - Jul. 2021
Electrical and Computer Engineering, UCSD   *San Diego, CA*
First prize of Undergraduate Innovation Award   Sep. 2019
Electrical Engineering, NTU   *Taipei, Taiwan*
College Student Research Creativity Award   Sep. 2019
MOST Taiwan   *Taiwan*
6th place of AI Rush   Aug. 2019
Naver and LINE   *Chuncheon, Korea*
College Student Research Scholarship   Jul. 2018 - Apr. 2019
MOST Taiwan   *Taiwan*

ACADEMIC SERVICE

Journal Reviewer   2021
IEEE Access
Teaching Assistant   Feb. 2019 - Jul. 2019
EE1006: Cornerstone EECS Design and Development, NTU   *Taipei, Taiwan*
Teaching Assistant   Feb. 2018 - Jul. 2018
EE1006: Cornerstone EECS Design and Development, NTU   *Taipei, Taiwan*

SKILLS

Frameworks   PyTorch, OpenCV
Programming Language   Python, C++, Verilog, Matlab, Latex