CHIH-HUI (JOHN) HO

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EDUCATION

University of California San Diego, La Jolla, CA Sep. 2019 - Now
PhD student in Electrical and Computer Engineering

University of California San Diego, La Jolla, CA Sep. 2017 - Jun. 2019
M.S. in Computer Science, GPA: 3.87/4.0

University of Illinois at Urbana-Champaign, Champaign, IL Jan. 2016 - May 2016
Exchange student in Computer Science, GPA: 3.71/4.0

National Chiao Tung University, Hsinchu, Taiwan Sep. 2012 - Jun. 2016
B.S. in EECS Honor Program, GPA: 4.15/4.3

RESEARCH INTEREST

Computer vision, Image processing, Artificial intelligence, Machine learning, Deep learning

PUBLICATION

• A New Technique of Camera Calibration: A Geometric Approach Based on Principal Lines
https://arxiv.org/abs/1908.06539, 2019.

• **Chih-Hui Ho**, Pedro Morgado, Amir Persekian, Nuno Vasconcelos. PIEs: Pose Invariant Embeddings, In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.

• **Chih-Hui Ho**[*], Brandon Leung[*], Erik Sandstrom, Yen Chang, Nuno Vasconcelos, "Catastrophic Child's Play: Easy to Perform, Hard to Defend Adversarial Attacks", In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.

• Yu-Shiuan Tsai, Yi-Yu Hsieh, **Chih-Hui Ho**, Rule-Based Optical Character Recognition for Serial Number on Renminbi Banknote, In *IS&T Electronic Imaging 2018 (EI)* (oral presentation)

ACADEMIC SERVICES

• **Reviewer:** IEEE International Conference on Image Processing (ICIP) 2019
• **Teaching Assistant:** ECE 271C Deep Learning and Applications, UCSD

PROFESSIONAL EXPERIENCE

Graduate Student Researcher, Statistical Visual Computing Lab, UCSD Jan. 2018 - Now
• Currently working on multiview images feature representation

Research Volunteer, San Diego Supercomputer Center Sep. 2017 - Dec. 2017
• Reduced error of large scale operational facility data (200 GB) in scientific workflow by 23%

Research Assistant, NCTU Computer Vision Research Center Nov. 2016 - Jun. 2017
• Developed deep learning model for human activity analysis in aerial images
• Designed bill serial number recognition system with more than 99 % accuracy
• Developed camera calibration algorithm and implemented the algorithm into prototype
• Developed algorithm for automated optical inspection (AOI) for bobbin defects

Software Engineer Internship, Industrial Technology Research Institute Jan. - Dec. 2015
• Developed a prototype to calibrate robotic arm with an industrial camera
• Represented ITRI to attend 2015 Taiwan Automation Intelligence and Robot Show
• Received Mechanical and Systems Research Lab Prospective Project Excellence Award

Research Internship, Cornell University Advanced Multimedia Lab Jul. - Aug. 2014
• Design algorithm to generate image collage based on emotional ROIs

SKILLS

Languages: Python, C/C++ , MATLAB, C#
Library: Pytorch, Tensorflow, Numpy, Pandas, Matplotlib, MatConvNet, OpenCV, Keras, LaTeX