

CHIH-HUI HO

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EDUCATION

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|---|-----------------------|
| University of California San Diego, La Jolla, CA
M.S. in Computer Science, GPA: 3.86/4.0 | Sep. 2017 - Jun. 2019 |
| University of Illinois at Urbana-Champaign, Champaign, IL
Exchange student in Computer Science, GPA: 3.71/4.0 | Jan. 2016 - May 2016 |
| National Chiao Tung University, Hsinchu, Taiwan
B.S. in EECS Honor Program, GPA: 4.15/4.3 | Sep. 2012 - Jun. 2016 |

RESEARCH INTEREST

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

PUBLICATION

- **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**, Erik Sandström, Brandon Leung, 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)

SKILLS

Languages: Python, C/C++ , MATLAB, C#

Library: Pytorch, Tensorflow, Numpy, Pandas, Matplotlib, MatConvNet, OpenCV, Keras, L^AT_EX

PROFESSIONAL EXPERIENCE

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| Graduate Student Researcher, Statistical Visual Computing Lab, UCSD
• Currently working on multiview images feature representation | Jan. 2018 - Now |
| Research Volunteer, San Diego Supercomputer Center
• Reduced error of large scale operational facility data (200 GB) in scientific workflow by 23% | Sep. 2017 - Dec. 2017 |
| Research Assistant, NCTU Computer Vision Research Center
• 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 | Nov. 2016 - Jun. 2017 |
| Software Engineer Internship, Industrial Technology Research Institute
• 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 | Jan. - Dec. 2015 |
| Research Internship, Cornell University Advanced Multimedia Lab
• Design algorithm to generate image collage based on emotional ROIs | Jul. - Aug. 2014 |

PROJECTS

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| 2018 Kaggle data science bowl – Keras
• Implemented image segmentation deep learning models for medical images
• Ranked top 18% in the competition | Jan. - Mar. 2018 |
| Deep learning based human activity analysis for aerial images – C
• Trained convolutional neural network to detect human with more than 91% | Nov. 2016 - Jun. 2017 |

- Analyzed human behavior with principle component analysis and vanishing point

Design assignment for UIUC CS543 computer vision course – *Matlab* Jan. - May 2016

- Implemented example code and designed example architecture to train Cifar 100
- Wrote deep learning tutorials and assignment walkthrough instructions on Kaggle

Human tracking mobile robots with Kinect – *C++* Jul. - Dec. 2013

- Identified users patterns with SIFT and GMM background subtraction algorithms
- Integrated depth sensor information, target user features and mobile robot control

EXCHANGE EXPERIENCE

Short term internship in Advanced Multimedia Lab in Cornell University Jul. - Aug. 2014

Exchange student at University of Illinois at Urbana-Champaign Jan. - Jun. 2016

AWARDS

Full Scholarship as exchange student at UIUC Jan. 2016 - May 2016

Full Scholarship for an internship in Cornell University Jul. - Aug. 2014

National Chiao Tung University scholarship Sep. 2012 - Jun. 2016