Yu-Wei Chao

Contact Information	University of Michigan Computer Science and Engineering 2260 Hayward Street Ann Arbor, MI 48109-2121	(734) 730-7701 ywchao@umich.edu http://www.umich.edu/~ywchao/

Research Interests

Computer vision, machine learning, object/human action recognition, 3D scene understanding

Education

University of Michigan, Ann Arbor, MI — Sept 2013 to present
    Ph.D. in Computer Science and Engineering
    Advisor: Prof. Jia Deng

University of Michigan, Ann Arbor, MI — Sept 2011 to Apr 2013
    M.S. in Electrical Engineering: Systems
    Advisor: Prof. Silvio Savarese

National Chiao Tung University, Hsinchu, Taiwan — Sept 2005 to June 2009
    B.S. in Electronics Engineering
    Minor in Applied Mathematics

Carnegie Mellon University, Pittsburgh, PA — Fall 2008
    International Exchange Program

Work Experience

University of Michigan, Ann Arbor, MI — Sep 2014 to present
Graduate Student Research Assistant (GSRA)
- Human action recognition
- Advisors: Prof. Jia Deng

DAQRI, Mountain View, CA — May 2014 to Aug 2014
Research Intern
- Mentors: Chris Broaddus, Wenyi Zhao, Byungsoo Kim

Stanford University, Stanford, CA — July 2013 to Dec 2013
Visiting Student Researcher
- Advisor: Prof. Silvio Savarese

University of Michigan, Ann Arbor, MI — May 2013 to April 2014
Graduate Student Research Assistant (GSRA)
- 3D layout estimation of indoor scenes
- Human group activity recognition
- Advisor: Prof. Silvio Savarese

Academia Sinica, Taipei, Taiwan — Aug 2010 to July 2011
Research Assistant
- Image classification via sparse representation
- Supervised dictionary learning for sparse representation
- Mentor: Dr. Yu-Chiang Frank Wang

Publications

Y.-W. Chao, Z. Wang, Y. He, J. Wang, and J. Deng. HICO: A Benchmark for Recognizing Human-Object Interactions in Images. In *Proceedings of the IEEE International Conference on Computer Vision* (ICCV), 2015.

Y.-W. Chao, Z. Wang, R. Mihalcea, and J. Deng. Mining Semantic Affordances of Visual Object Categories. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), 2015.

W. Choi, **Y.-W. Chao**, C. Pantofaru, and S. Savarese. Indoor Scene Understanding with Geometric and Semantic Contexts. *International Journal of Computer Vision* (IJCV), Vol. 112, Issue 2, pp.204–220, April 2015.

W. Choi, **Y.-W. Chao**, C. Pantofaru, and S. Savarese. Discovering Groups of People in Images. In *Proceedings of the European Conference on Computer Vision* (ECCV), 2014.

Y.-W. Chao, W. Choi, C. Pantofaru, and S. Savarese. Layout Estimation of Highly Cluttered Indoor Scenes using Geometric and Semantic Cues. In *Proceedings of the International Conference on Image Analysis and Processing* (ICIAP), 2013. (**oral presentation**, 7.9% acceptance rate)

W. Choi, **Y.-W. Chao**, C. Pantofaru, and S. Savarese. Understanding Indoor Scenes using 3D Geometric Phrases. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), 2013. (**oral presentation**, 3.2% acceptance rate)

C.-P. Wei, **Y.-W. Chao**, Y.-R. Yeh, and Y.-C. F. Wang. Locality-Sensitive Dictionary Learning for Sparse Representation Based Classification. *Pattern Recognition*, Vol. 46, No. 5, pp.1277–1287, May 2013.

S. Y. Bao, M. Bagra, **Y.-W. Chao**, and S. Savarese. Semantic Structure From Motion with Points, Regions, and Objects. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR), 2012.

Y.-W. Chao, Y.-R. Yeh, Y.-W. Chen, Y.-J. Lee, and Y.-C. F. Wang. Locality-constrained Group Sparse Representation for Robust Face Recognition. In *Proceedings of the IEEE International Conference on Image Processing* (ICIP), 2011.

TEACHING EXPERIENCE	**Computer Vision (EECS 542)**, University of Michigan *Graduate Student Instructor (GSI)*	Fall 2014

Computer Vision (EECS 442), University of Michigan — Fall 2012
Graduate Student Instructor (GSI)
- Served as the only GSI for a class with 80+ student
- Taught weekly section on topics from class; demonstrated off-the-shelf softwares
- Managed an online forum for discussions; held office hours to provide individualized help

AWARDS AND HONORS

Rackham Conference Travel Grant, University of Michigan — March 2015
Government Scholarships for Study Abroad (GSSA), Ministry of Education, Taiwan — May 2011
Study Abroad Scholarship for Outstanding College Students, Ministry of Education, Taiwan — Fall 2008
Academic Achievement Award, National Chiao Tung University — Spring 2008

PROFESSIONAL SERVICE

Reviewer
- International Conference on Pattern Recognition (ICPR), 2014
- International IEEE Workshop on 3D Representation and Recognition (3dRR-13), 2013
- International Conference on Image Analysis and Processing (ICIAP), 2013

Student Volunteer
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2013
- IEEE Statistical Signal Processing Workshop (SSP'12), 2012

OTHER ACHIEVEMENTS

Contributor to open source projects
- Caffe: a popular tool for Deep Learning

Technology Transfer - Industrial Technology Research Institutes, Hsinchu, Taiwan — Dec 2011
- Sparse Representation Based Face Recognition Technology

SKILLS AND LANGUAGES

Programming Languages: MATLAB, C/C++, Python, UNIX shell scripting, and others
Libraries: Caffe, OpenCV
Operating Systems: Linux, Windows and Mac OS X
Languages: English, Chinese (Mandarin), and Taiwanese