

# YU-WEI CHAO

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## AREA OF INTERESTS

Computer Vision, Machine Learning, Signal Processing

## EDUCATION

**University of Michigan**, Ann Arbor, MI September 2011 - Present  
M.S. in Electrical Engineering: Systems GPA: 3.91/4.00  
Advisor: Prof. Silvio Savarese

**National Chiao Tung University**, Hsinchu, Taiwan September 2005 - June 2009  
B.S. in Electronics Engineering, Minor in Applied Mathematics GPA: 3.85/4.00

**Carnegie Mellon University**, Pittsburgh, PA Fall 2008  
International Exchange Program GPA: 3.80/4.00

## WORK EXPERIENCE

**Research Assistant**, Academia Sinica, Taipei, Taiwan August 2010 - July 2011

- Assist academic research in computer vision, pattern recognition and machine learning
- Instruct undergraduate RAs in machine learning/pattern recognition topics
- Served as reviewer of ACCV 2010 and ICME 2011
- **Mentor**: Dr. Yu-Chiang Frank Wang

## RESEARCH PROJECTS

**3D Indoor Scene Understanding using Geometric and Semantic Cues** August 2012 - Present

- Exploit geometric coherence between objects and the scene to recover layout of cluttered rooms
- **Advisor**: Prof. Silvio Savarese

**Semantic Structure from Motion with Points, Regions, and Objects** September 2011 - November 2011

- Applied and analyzed different region classifiers for Semantic Structure from Motion
- **Advisor**: Prof. Silvio Savarese

**Supervised Dictionary Learning for Sparse Representation Classification** February 2011 - July 2011

- Proposed a supervised dictionary learning algorithm for face recognition and handwritten digit recognition
- **Advisor**: Dr. Yu-Chiang Frank Wang

**Locality and Group-Sensitive Sparse Representation for Visual Classification** August 2010 - January 2011

- Proposed a novel sparse representation algorithm for supervised image classification
- **Advisor**: Dr. Yu-Chiang Frank Wang

**Interactive Cosegmentation on Groups of Related Images** Fall 2008

- Created a dataset and ground truth labels for image segmentation (38 groups with 643 images)
- **Advisor**: Prof. Tsuhan Chen

## TEACHING EXPERIENCE

**Teaching Assistant** of online courses at Coursera

- Computer Vision: From 3D Reconstruction to Visual Recognition Spring 2013  
<https://www.coursera.org/course/computervision>

**Graduate Student Instructor (GSI)** at University of Michigan

- EECS 442 Computer Vision Fall 2012  
[http://www.eecs.umich.edu/vision/teaching/EECS442\\_2012/eecs442.html](http://www.eecs.umich.edu/vision/teaching/EECS442_2012/eecs442.html)

## PUBLICATIONS

- 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*, Volume 46, Issue 5, May 2013, Pages 1277-1287.
- S. Y. Bao, M. Bagra, **Y.-W. Chao**, and S. Savarese, "Semantic Structure From Motion with Points, Regions, and Objects," *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," *Proceedings of the IEEE International Conference on Image Processing (ICIP)*, 2011.

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## HONORS & AWARDS

- **Government Scholarships for Study Abroad (GSSA)**, Ministry of Education, Taiwan May 2011
- **Achievement Award for Mandatory Service Officers**, Ministry of National Defense, Taiwan June 2010
- **Study Abroad Scholarship for Outstanding College Students**, Ministry of Education, Taiwan Fall 2008
- **Academic Achievement Award (Class Rank: 2/51)**, National Chiao Tung University Spring 2008

## OTHER ACHIEVEMENTS

- **Technology Transfer** - Industrial Technology Research Institutes, Hsinchu, Taiwan December 2011  
Sparse Representation Based Face Recognition Technology

## SKILLS & LANGUAGES

- Programming Languages: C/C++, MATLAB, Java, Python
- Operating Systems: Windows, Linux
- Languages: English, Chinese (Mandarin), Taiwanese