

# Cheng-An (Andy) Hou

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## Education

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**Master of Science in Computer Vision | School of Computer Science, Carnegie Mellon University** **Aug. 2015 – Dec. 2016**

- GPA – 4.00/4.00
- Courses: Machine Learning, Computer Vision, Math Fundamentals for Robotics, Visual Learning and Recognition (Deep Learning), Multimedia Databases and Data Mining.

**Bachelor of Science | National Chiao Tung University** **Sept. 2009 – June 2013**

- GPA – 4.18/4.30 (Last two years ~top 10%); 3.61/4.30 (Overall)
- Courses: Stochastic Processes, Convex Optimization, Data structure and Algorithms, Operating Systems, Image Processing.

## Work Experience

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**Research Assistant | Robotics Institute, Carnegie Mellon University** **January 2016 – present**

- Doing a project about learning a deep neural networks without human's supervision.

**Research Assistant | Multimedia and Machine Learning Lab, Academia Sinica** **July 2013 – July 2015**

- Completed several projects in the field of machine learning with applications to computer vision.
- Published papers in peer-reviewed international conferences and journal (**6 published, 1 submitted**).

## Project Experience

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**Unsupervised Domain Adaptation for Cross-Domain Object Recognition** **July 2014 – July 2015**

- Proposed an unsupervised domain adaptation algorithm by advancing semi-supervised learning and kernel embedding techniques.
- Outperformed previous methods with better accuracies in balanced and imbalanced data setting (2 papers published in ICCV, AAAI).

**Heterogeneous Face Recognition** **July 2013 – June 2014**

- Developed an unsupervised learning algorithm for adapting the face with different modalities (e.g., infrared face to normal face).
- Outperformed some supervised approaches with significantly better recognition rates (2 papers published).

**Exploratory Data Analysis using R programming Language, Udacity** **May 2014**

- Investigated and visualized important factors that influence the quality of white wines (Passed with official interview).

**Robust Face Recognition Using Single Training Data per Person** **Spring 2013**

- Solved the under-sampled face recognition problem by proposing a novel Low-Rank based Sparse Coding method.

## Selected Publications

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[1] Y.-H. Tsai, **C.-A. Hou**, W.-Y Chen, Y.-R. Yeh, and Y.-C. F. Wang, " Domain-Constraint Transfer Coding for Imbalanced Unsupervised Domain Adaptation," 2016 AAAI Conference on Artificial Intelligence (AAAI), Feb. 2016.

[2] T.-M. Hsu, **C.-A. Hou**, W.-Y Chen., Y.-R. Yeh, and Y.-C. F. Wang, "Unsupervised Domain Adaptation with Imbalanced Cross-Domain Data," *IEEE International Conference on Computer Vision (ICCV)*, Dec. 2015.

[3] **C.-A. Hou**, M.-C. Yang, and Y.-C. F. Wang, "Domain Adaptive Self-Taught Learning for Heterogeneous Face Recognition," *IEEE/IAPR International Conference on Pattern Recognition (ICPR)*, Aug. 2014.

## Awards and Honors

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**Best Paper Award Nominee, IEEE AVSS 2015**

## Computer Skills

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- **Programming Languages:** C/C++, Python, Matlab, R, Unix shell script, CSS, Verilog.
- **Tools:** Caffe, OpenCV, LibSVM, Subversion, Latex.