

YAO-HUNG HUBERT TSAI

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RESEARCH INTERESTS

I work on Deep Learning and its applications, especially on Transfer Learning and Generative Learning.

EDUCATION

Carnegie Mellon University, Pittsburgh, PA, USA

Aug 2016 - May 2021

- Ph.D. in Machine Learning within School of Computer Science
- *Advised by Dr. Ruslan Salakhutdinov*
- GPA: 4.15/4.0

National Taiwan University, Taipei, Taiwan

Aug 2010 - Jun 2014

- B.S. in Electrical Engineering (graduated with Department Honors)
- Undergraduate Ceremony Representative
- *Advised by Dr. Yu-Chiang Frank Wang and Dr. Shao-Yi Chien*
- GPA: 4.17/4.0

SELECTED PUBLICATIONS

Conference Publications

- [1] Shih-Yen Tao, **Yao-Hung Hubert Tsai**, Yi-Ren Yeh and Yu-Chiang Frank Wang. “Semantics-Preserving Locality Embedding for Zero-Shot Learning”, *British Machine Vision Conference (BMVC)*, 2017. (**Oral Presentation**)
- [2] Wei-Yu Chen, Tzu-Ming Harry Hsu, **Yao-Hung Hubert Tsai**, Yu-Chiang Frank Wang and Ming-Syan Chen. “Transfer Neural Trees for Heterogeneous Domain Adaptation”, *European Conference on Computer Vision (ECCV)*, 2016.
- [3] **Yao-Hung Hubert Tsai**, Yi-Ren Yeh and Yu-Chiang Frank Wang. “Learning Cross-Domain Landmarks for Heterogeneous Domain Adaptation”, *Computer Vision and Pattern Recognition (CVPR)*, 2016.
- [4] **Yao-Hung Hubert Tsai**, Cheng-An Hou, Wei-Yu Chen, Yi-Ren Yeh and Yu-Chiang Frank Wang. “Domain-Constraint Transfer Coding for Imbalanced Unsupervised Domain Adaptation”, *Association for the Advancement of Artificial Intelligence (AAAI)*, 2016.
- [5] Tzu-Ming Harry Hsu, Wei-Yu Chen, Cheng-An Hou, **Yao-Hung Hubert Tsai**, Yi-Ren Yeh and Yu-Chiang Frank Wang. “Unsupervised Domain Adaptation with Imbalanced Cross-Domain Data”, *International Conference on Computer Vision (ICCV)*, 2015.
- [6] Yuan-Ting Hsieh*, Shih-Yen Tao*, **Yao-Hung Hubert Tsai**, Yi-Ren Yeh and Yu-Chiang Frank Wang. “Generalized Joint Distribution Adaptation on Heterogeneous Feature Space”, *International Conference on Multimedia & Expo (ICME)*, 2016. (*equal contributions) (**Oral Presentation**)
- [7] **Yao-Hung Hubert Tsai**, Yi-Ren Yeh and Yu-Chiang Frank Wang. “Heterogeneous Domain Adaptation with Label and Structure Consistency”, *International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2016.
- [8] **Yao-Hung Tsai***, Hung-Ming Hsu*, Cheng-An Hou and Yu-Chiang Frank Wang. “Person-specific Domain Adaptation with Applications to Heterogeneous Face Recognition”, *International Conference on Image Processing (ICIP)*, 2014. (*equal contributions)
- [9] Po-Chen Wu, **Yao-Hung Tsai** and Shao-Yi Chien. “Stable Pose Tracking from a Planar Target with an Analytical Motion Model in Real-time Applications”, *International Workshop on Multimedia Signal Processing (MMSP)*, 2014.

Journal Publications

- [10] Cheng-An Hou, **Yao-Hung Hubert Tsai**, Yi-Ren Yeh and Yu-Chiang Frank Wang. “Unsupervised Domain Adaptation with Label and Structural Consistency”, *IEEE Transactions on Image Processing (TIP)*, 2016.

Pre-Prints

- [11] Chih-Kuan Yeh, **Yao-Hung Hubert Tsai**, Yu-Chiang Frank Wang. “Generative-Discriminative Variational Model for Visual Recognition”, *arXiv:1706.02295*, 2017.
- [12] **Yao-Hung Hubert Tsai**, Liang-Kang Huang, Ruslan Salakhutdinov. “Learning Robust Visual-Semantic Embeddings”, *arXiv:1703.05908*, 2017.

RESEARCH & WORK EXPERIENCES

- | | |
|--|----------------------------|
| Graduate Research Assistant , Carnegie Mellon University | <i>Aug 2016 - May 2021</i> |
| <ul style="list-style-type: none">• Researching in Deep Learning and its applications, especially on Transfer Learning and Generative Learning• <i>Advisor: Dr. Ruslan Salakhutdinov</i> | |
| Graduate Research Intern , Microsoft Research | <i>May 2017 - Aug 2017</i> |
| <ul style="list-style-type: none">• Working on Deep Generative Models• <i>Advisor: Dr. Nebojsa Jojic</i> | |
| Research Assistant , CITI, Academia Sinica | <i>Aug 2015 - Aug 2016</i> |
| <ul style="list-style-type: none">• Working on Person Re-Identification, Domain Adaptation, and Transfer Learning• <i>Advisor: Dr. Yu-Chiang Frank Wang</i> | |
| Second Lieutenant , R.O.C. Air Force | <i>Jul 2014 - Jul 2015</i> |
| <ul style="list-style-type: none">• Compulsory Military Service in Taiwan | |
| Undergraduate Research Assistant , National Taiwan University | <i>Sep 2012 - Jun 2014</i> |
| <ul style="list-style-type: none">• Working on Heterogeneous Face Recognition, Augmented Reality, and Real-Time Pose Tracking• <i>Advisor: Dr. Yu-Chiang Frank Wang and Dr. Shao-Yi Chien</i> | |

TEACHING EXPERIENCES

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|---|----------------------------|
| Teaching Assistant , CITI, Academia Sinica | <i>Aug 2015 - Aug 2016</i> |
| <ul style="list-style-type: none">• Providing Deep Learning tutorials/short courses for undergrad/grad students | |

ACADEMIC TALKS

- [1] **Yao-Hung Hubert Tsai**. “Learning Visual and Semantic Embeddings for Low-Shot Setting”, *Taiwanese Computer Vision Online Meetup*, May 2017.

ACADEMIC SERVICES

- Reviewer:**
- *ICML 2017, NIPS 2017*

SELECTED HONORS & AWARDS

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| Government Scholarship to Study Abroad (GSSA) , Taiwan Ministry of Education | <i>2016/2017</i> |
| Undergraduate Ceremony Representative , National Taiwan University | <i>2014</i> |
| Presidential Awards , National Taiwan University | <i>2011/2012/2014</i> |
| Best Tourism App Award , Chunghwa Telecom Hami Apps Competition | <i>2014</i> |
| Bronze Medal & Outstanding Paper Award , Altera Innovate Asia FPGA Design Competition | <i>2013</i> |
| Direct Admission with Recommendation , International Physics Olympiad Selection Camp | <i>2010</i> |
| National Representative Honorable Mention , International Physics Olympiad Selection Camp | <i>2009</i> |
| 1st Runner-Up/Third Prize , Regional/National Physics Olympiad for Senior High School | <i>2009</i> |
| Honorable Mention , International Junior Science Olympiad Selection Camp | <i>2008</i> |

SKILLS

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| Toolbox/Software | PyTorch, TensorFlow, Theano, Keras, Torch, Caffe, CUDA, cuDNN, L ^A T _E X |
| Programming Languages | Python, MATLAB, R, C/C++, Lua, C#, JAVA, Verilog, JavaScript, HTML5 |