Yen-Cheng Liu

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Education

Georgia Tech, Atlanta, GA
Ph.D. student, Machine Learning — Aug. 2018 - Present
GPA: 4.00/4.00

National Taiwan University, Taipei, Taiwan
M.S., Electrical Engineering — Sep. 2015 - June 2017
GPA: 4.19/4.30

Technical University of Munich, Munich, Germany
Exchange Student, EE&IT — Sep. 2014 - Mar. 2015

National Chiao Tung University, Hsinchu, Taiwan
B.S., Electrical and Computer Engineering — Sep. 2011 - June 2015
GPA: 4.24/4.30

Research Interest

Machine Learning, Computer Vision,
Domain Adaptation, Representation Learning, Multi-agent Learning.

Selected Publications

[1] **Y.-C. Liu**, J. Tian, C.-Y. Ma, N. Glaser, C.-W. Kuo, Z. Kira. Anonymous Paper Title, *International Conference on Robotics and Automation (ICRA)*, 2020 (Under review)

[2] P.-Y. Chen*, A. Liu*, **Y.-C. Liu**, Y.-C. F. Wang. Towards Scene Understanding: Unsupervised Monocular Depth Estimation with Semantic-aware Representation , *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019 **(Oral**; * equal contributions**)**

[3] W.-Y. Chen, **Y.-C. Liu**, Z. Kira, Y.-C. F. Wang, J.-B. Huang. A Closer Look at Few-shot Classification, *International Conference on Learning Representations (ICLR)*, 2019

[4] A. Liu, **Y.-C. Liu**, Y.-Y Yeh, Y.-C. F. Wang. A Unified Feature Disentangler for Multi-Domain Image Translation and Manipulation, *Conference on Neural Information Processing Systems (NeurIPS)*, 2018

[5] **Y.-C. Liu**, Y.-Y Yeh, T.-C. Fu, S.-D. Wang, W.-C. Chiu, Y.-C. F. Wang. Detach and Adapt: Learning Cross-Domain Disentangled Deep Representation, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018 **(Spotlight)**

[6] Y.-Y. Yeh, **Y.-C. Liu**, W.-C. Chiu, Y.-C. F. Wang. Anonymous Paper Title, , 2019 (under review)

[7] Y.C. Hsu, **Y.-C. Liu**, Z. Kira. Re-evaluating Continual Learning Scenarios: A Categorization and Case for Strong Baselines, *Conference on Neural Information Processing Systems Workshops(NeurIPS Workshops)*, 2018

[8] Y.-J. Li, F.-E. Yang, **Y.-C. Liu**, Y.-Y Yeh, X. Du, Y.-C. F. Wang. Adaptation and Re-Identification Network: An Unsupervised Deep Transfer Learning Approach to Person Re-Identification, *IEEE Conference on Computer Vision and Pattern Recognition Workshops (CVPR workshops)*, 2018

[9] T.-S. Kuo, K.-S. Tseng, J.-W. Yan **Y.-C. Liu**, Y.-C. F. Wang. Deep Aggregation Net for Land Cover Classification, *IEEE Conference on Computer Vision and Pattern*

Recognition Workshops (CVPR workshops), 2018

[10] **Y.-C. Liu**, W.-C. Chiu, S.-D. Wang, Y.-C. F. Wang. Domain-Adaptive Generative Adversarial Networks for Sketch-to-Photo Inversion, *IEEE International Workshop on Machine Learning for Signal Processing (MLSP)*, 2017

EXPERIENCE

Graduate Research Assistant — Georgia Tech
Advisor: Prof. Zsolt Kira — Atlanta, GA

• **Collaborative Perception [1]**
- Build multi-agent collaborative perception systems to improve conventional single-agent vision tasks

• **Few-shot Classification [3]**
- Re-evaluated current continual learning algorithms and strong baselines

• **Continual Learning [7]**
- Re-evaluated current few-shot classification models and strong baselines

Research Assistant — National Taiwan University
Advisor: Prof. Yu-Chiang Frank Wang — Taipei, Taiwan

• **Single-Image Depth Estimation with Semantics Consistency [2]**
- Integrated unsupervised depth estimation with semantic segmentation
- Proposed segment-based stereo consistency to improve depth estimation

• **Stochastic Video Synthesis and Completion [6]**
- Extracted time-order representation from limited anchor frames
- Achieved video prediction and interpolation based on sequence-sequence model

Graduate Research — CITI, Academia Sinica
Advisor: Prof. Yu-Chiang Frank Wang — Taipei, Taiwan

• **Learning Cross-Domain Disentangled Representation [4, 5]**
- Excelled the state-of-the-art in task of unsupervised domain adaptation
- Achieved unsupervised image translation conditioned on given attribute

• **Domain-Adaptive GAN for Sketch Inversion [10]**
- Proposed cross-style sketch-to-photo inversion based on generative models
- Adapted the sketch-to-photo inversion to unsupervised sketch style

Teaching Assistant — National Taiwan University
Instructor: Chung-Yang (Ric) Huang — Taipei, Taiwan
Course: Data Structure and Programming
- Provided one-to-one assistance for 150+ students and graded the programming assignments

Academic Services

Reviewer: CVPR '19, ICCV'19, AAAI'20, CVPR '20

Skills

Computer Languages: C, C++, Java, Bash, Python, MATLAB, LaTeX.

Toolbox/Software: PyTorch, TensorFlow, Torch, Caffe, Chainer, Unity.

Honors &Awards

Rotary International Graduate Student Scholarship *2016*

Dean's List Award (4 times) *2011-2015*

Pan Wen Yuan Foundation Scholarship *2013*