

CHING-YAO CHUANG

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<http://chingyaoc.github.io>

RESEARCH INTEREST

- Representation Learning
- Unsupervised and Self-supervised Learning
 - Domain Adaptation
- Statistical Machine Learning
- Generalization of Deep Learning

EDUCATION

- Ph.D. Massachusetts Institute of Technology** Sep. 2018 - Present
- Department of Electrical Engineering and Computer Science
 - Advisor: [Stefanie Jegelka](#) & [Antonio Torralba](#)
- S.M. Massachusetts Institute of Technology** Sep. 2018 - June. 2021
- Department of Electrical Engineering and Computer Science
 - Advisor: [Stefanie Jegelka](#) & [Antonio Torralba](#)
- B.Sc. National Tsing Hua University, Taiwan** Sep. 2013 - Jun. 2017
- Department of Electrical Engineering
 - Advisor: [Min Sun](#)

RESEARCH EXPERIENCE

- Microsoft Research**, Redmond, WA Summer 2021
- Research Intern / Host: [Yale Song](#)
 - Project: Multimodal Contrastive Learning
- IBM Research AI**, Yorktown Heights, NY Summer 2020
- Research Intern / Host: [Youssef Mroueh](#)
 - Project: Machine Learning Fairness
- MIT CSAIL**, Cambridge, MA Sep 2018 - Present
- Research Assistant / Host: [Stefanie Jegelka](#) & [Antonio Torralba](#)
 - Project: Learning Generalizable Representations
- ML Group, University of Toronto**, Toronto, ON Aug. 2017 - Dec. 2017
- Visiting Student / Host: [Sanja Fidler](#)
 - Project: Scene Understanding and Target-driven Navigation
- Umbo CV Inc.**, Taipei, Taiwan Summer 2016
- Intern / Host: [Ping-Lin Chang](#)
 - Project: Visual Question Answering

PUBLICATIONS [1] **Measuring Generalization with Optimal Transport** *arXiv, In Submission 2021.*

Ching-Yao Chuang, Youssef Mroueh, Kristjan Greenewald, Antonio Torralba, Stefanie Jegelka

[2] Fair Mixup: Fairness via Interpolation

International Conference on Learning Representations (ICLR), 2021.

Ching-Yao Chuang, Youssef Mroueh

[3] Contrastive Learning with Hard Negative Samples

International Conference on Learning Representations (ICLR), 2021.

Joshua Robinson, **Ching-Yao Chuang**, Suvrit Sra, and Stefanie Jegelka

[4] Debiased Contrastive Learning

Conference on Neural Information Processing Systems (NeurIPS Spotlight), 2020.

Ching-Yao Chuang, Joshua Robinson, Lin Yen-Chen, Antonio Torralba, and Stefanie Jegelka

[5] Estimating Generalization under Distribution Shifts via Domain-Invariant Representations

International Conference on Machine Learning (ICML), 2020.

Ching-Yao Chuang, Antonio Torralba, and Stefanie Jegelka

[6] The Role of Embedding Complexity in Domain-invariant Representations

International Conference on Machine Learning (ICML AMTL Workshop), 2019.

Ching-Yao Chuang, Antonio Torralba, and Stefanie Jegelka

[7] Learning to Act Properly: Predicting and Explaining Affordances from Images

Computer Vision and Pattern Recognition Conference (CVPR), 2018.

Ching-Yao Chuang, Jiaman Li, Antonio Torralba, and Sanja Fidler

[8] Show, Adapt and Tell: Adversarial Training of Cross-domain Image Captioner

International Conference on Computer Vision (ICCV), 2017.

Tseng-Hung Chen, Yuan-Hong Liao, **Ching-Yao Chuang**, Wan-Ting Hsu, Jianlong Fu, and Min Sun

[9] Leveraging Video Descriptions to Learn Video Question Answering

The Thirty-First Conference on Artificial Intelligence (AAAI), 2017.

Kuo-Hao Zeng, Tseng-Hung Chen, **Ching-Yao Chuang**, Yuan-Hong Liao, Juan Carlos Niebles, and Min Sun

AWARDS AND HONORS

- Reviewer of AAAI 2019, NeurIPS 2020, ICML 2021, IEEE TIP *Jan. 2021*
- First Place, THOR challenge in CVPR-2017 Workshop *Jul. 2017*
- Excellent Student Scholarship of EECS College, NTHU *May. 2016*
- Dean's List Award, National Tsing Hua University *Feb. 2014*

TRAINING EXPERIENCE

Teaching Assistant at National Tsing Hua University for:

- EE 361002 Signal and Systems, Spring 2017, Instructor: Min Sun

Lecturer at Industrial Technology Research Institute for:

- Deep Reinforcement Learning Tutorial, Fall 2016

SKILLS

Programming Language: Python, C/C++, Java, Matlab, Lua, JavaScript, HTML
Frameworks: PyTorch, Tensorflow, scikit-learn, Caffe