TZU-MING HARRY HSU

Ph.D. Student, Computer Science and Artificial Intelligence Laboratory, MIT

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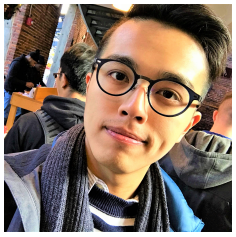

EDUCATION

Ph.D. Student in Electrical Engineering Computer Science

Massachusetts Institute of Technology

Sep 2017 – Ongoing | Cambridge, MA

B.S.E. in Electrical Engineering

National Taiwan University

Sep 2011 – Jun 2016 | Taipei, Taiwan

Class Rank: 1/190 | GPA: 3.99/4.00

B.S. in Physics

National Taiwan University

Sep 2012 – Jun 2016 | Taipei, Taiwan

PUBLICATIONS

Journals

- **Transfer Neural Trees: Semi–Supervised Heterogeneous Domain Adaptation and Beyond**
  TWei–Yu Chen, Tzu–Ming Harry Hsu, Yao–Hung Hubert Tsai, Ming–Syan Chen, and Yu–Chiang Frank Wang.
  IEEE Transactions on Image Processing (TIP)

Conference Proceedings

- **Clinically Accurate Chest X–Ray Report Generation**
  Tzu–Ming Harry Hsu*, Guanxiong Liu*, Matthew McDermott, Willie Boag, Wei–Hung Weng, Peter Szolovits, Marzyeh Ghassemi. MLHC 2019
- **3D–Aware Scene Manipulation via Inverse Graphics**
  Tzu–Ming Harry Hsu*, Shunyu Yao*, Jun–Yan Zhu, Jiajun Wu, Antonio Torralba, William T. Freeman, and Joshua B. Tenenbaum. NeurIPS 2018
- **Unsupervised Multimodal Representation Learning across Medical Images and Reports**
  Tzu–Ming Harry Hsu, Wei–Hung Weng, Willie Boag, Matthew McDermott, and Peter Szolovits . ML4H, NeurIPS 2018
- **Learning Food Quality and Safety using Wireless Stickers**
  Unsoo Ha, Yunfei Ma, Zexuan Zhong, Tzu–Ming Harry Hsu, and Fadel Adib. Hotnets 2018
- **Transfer Neural Trees for Heterogeneous Domain Adaptation**
  Wei–Yu Chen, Tzu–Ming Harry Hsu, Yao–Hung Hubert Tsai, and Yu–Chiang Frank Wang. ECCV 2016
- **Unsupervised Domain Adaptation With Imbalanced Cross–Domain Data**
  Tzu–Ming Harry Hsu, Wei–Yu Chen, Cheng–An Hou, Yao–Hung Hubert Tsai, Yi–Ren Yeh, and Yu–Chiang Frank Wang. ICCV 2015

HIGHLIGHT

Ranked #1 in IPhO
International Physics Olympiad 2011 with 400+ participants

STRENGTHS

Computer Vision | Federated Learning | ML for Healthcare | Machine Learning | Signal Processing

LEADERSHIP

MIT Taiwanese Student Association

President

May 2018 – April 2019

NTU Toastmasters Club

Public Relations/Member Vice President

Mar 2014 – Feb 2015

WORK EXPERIENCE

Brigham and Women's Hospital

Research Trainee

Sep 2019 – Ongoing

Google AI

Research Intern / Student Researcher

Jun 2019 – Ongoing

Digital Drift Corporation

Lead Data Scientist

Mar 2016 – Ongoing

Ministry of National Defense, Taiwan

Military Service

Jul 2016 – Jun 2017

PUBLICATIONS (CONT'D)

- **Connecting the Dots Without Clues: Unsupervised Domain Adaptation for Cross–domain Visual Classification**
  Wei–Yu Chen, Tzu–Ming Harry Hsu, Cheng–An Hou, Yi–Ren Yeh and Yu–Chiang Frank Wang. ICIP 2015

RESEARCH EXPERIENCE

Google AI
Dr. Matthew Brown

Jun 2019 – Ongoing | Google

- Investigate the effect of non–identical data in training federated learning visual classifiers

Clinical Decision Making Group (MEDG)
Prof. Peter Szolovits

Jul 2018 – Ongoing | MIT CSAIL

- Beyond full supervision for uncovering underlying structure of medical radiology data and clinician reports
- 3D medical imaging including MRI and CT
- Medical report generation from radiographs

Computer Vision Group

Feb 2018 – June 2018 | MIT CSAIL

- Use 3D–aware vision as inverse–graphics for image editing

Signal Kinetics Lab
Prof. Fadel Adib

Sep 2017 – Jan 2018 | MIT Media Lab

- Mobile localization in LTE cellular network
- Food quality and content detection with wireless signal

Multimedia and Machine Learning Lab
Prof. Yu–Chiang Wang

Apr 2014 – Jun 2016 | Academia Sinica, Taiwan

- Unsupervised domain adaptation with imbalanced cross–domain data
- Deep learning for heterogeneous domain adaptation

Access IC Lab
Prof. An–Yeu Andy Wu

Sep 2014 – Jun 2015 | NTU, Taiwan

- Noise removal of photoplethysmographic signals

Laboratory for Applied Logic and Computation in System Design (ALCom Lab)
Prof. Jie–Hong Roland Jiang

Jul 2013 – Jun 2014 | NTU, Taiwan

- Continuous–time mathematical models for neurons

AWARDS

Altera Innovate Asia FPGA Design Competition
Silver Medal

2015

- Designed a custom PCB for music modulation and user sporting statistics

ICASSP Signal Processing Cup
Tenth Place

2015

- Ranked 10th globally in heartbeat detection for sports

International Physics Olympiad (IPhO)
First Place Overall, in Theory, and in Experiment

2011

- Ranked 1st in both theory section and experiment section among 401 international representatives from over 80 countries

International Junior Science Olympiad (IJSO)
Gold Medal

2008

- Ranked top 10% among 300 international representatives from over 60 countries