

Yu-Ding Lu

Curriculum Vitae

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Education

- M.S. **University of California, Merced, CA, USA**
- 2018 - Present, Electrical Engineering and Computer Science , Vision and Learning Lab
 - Advisor : Ming-Hsuan Yang
- B.S. **National Chiao Tung University, Hsinchu, Taiwan**
- 2010 - 2014 Electrical and Computer Engineering

Work & Research Experience

- Research Intern **FXPAL, Palo Alto, CA, USA**
- May. 2019 - Aug. 2019
 - Mentors: Qiong Liu, Yanxia Zhang
 - Project: Cross-Modality Embedding System
- AI & DSP Engineer **Intelligo Technology Inc., Hsinchu, Taiwan**
- Jan. 2018 - Jul. 2018
 - Mentors: Chen-chu Hsu, Tsung-liang Chen
 - Project: Speech Enhancement on AI chips
- Short-Term Scholar **JSALT 2017, Carnegie Mellon University, PA, USA**
- Jun. 2017 - Aug. 2017
 - Mentors: Jun Du, Yu Tsao, Mahesh Krixhnamoorthy, Kenneth Ward Church
 - Project: Speaker Diarization, Speech Enhancement
- Research Assistant **Biology & Audio Signal Processing Lab - CITI, Academia Sinica, Taipei, Taiwan**
- Mar. 2016 - Dec. 2017
 - Mentors: Yu Tsao
 - Project: Speaker Verification, Speech Enhancement, Speech Recognition

Publication ([Google Scholar profile](#))

- IJCV 2019 **DRIT++: Diverse Image-to-Image Translation via Disentangled Representations**
- Hsin-Ying Lee, Hung-Yu Tseng, Qi Mao, Jia-Bin Huang, **Yu-Ding Lu**, Ming-Hsuan Yang
 - International Journal of Computer Vision (IJCV), 2019
- NeurIPS 2019 **Dance to Music**
- Hsin-Ying Lee, Xiaodong Yang, Ming-Yu Liu, Ting-Chun Wang, **Yu-Ding Lu**, Ming-Hsuan Yang
 - Neural Information Processing Systems (NeurIPS)
- ICIP 2019 **Self-supervised Audio Spatialization with Correspondence Classifier**
- **Yu-Ding Lu**, Hsin-Ying Lee, Hung-Yu Tseng, Ming-Hsuan Yang
 - IEEE International Conference on Image Processing
- ICASSP 2018 **Enhancement And Analysis of Conversational Speech: JSALT 2017**
- Neville Ryant, Erika Bergelson, Kenneth Church, [and 15 others including **Yu-Ding Lu**],
 - IEEE International Conference on Acoustics, Speech and Signal Processing
- ICASSP 2018 **A Novel LSTM-Based Speech Preprocessor For Speaker Diarization In Realistic Mismatch Conditions**
- Lei Sun, Jun Du, Tian Gao, **Yu-Ding Lu**, Yu Tsao, Chin-Hui Lee and Neville Ryant,
 - IEEE International Conference on Acoustics, Speech and Signal Processing

- IJCLCLP2017 **A Replay Spoofing Detection System Based on Discriminative Autoencoders**
- **Yu-Ding Lu**, Hung-Shin Lee, Yu Tsao, Hsin-Min Wang
 - International Journal of Computational Linguistics and Chinese Language Processing
- INTERSPEECH 2017 **Discriminative Autoencoders for Acoustic Modeling**
- Ming-Han Yang, Hung-Shin Lee, **Yu-Ding Lu**, Kuan-Yu Chen, Yu Tsao, Berlin Chen, Hsin-Min Wang
 - International Speech Communication Association
- ICASSP 2017 **Discriminative Autoencoders For Speaker Verification**
- Hung-Shin Lee, **Yu-Ding Lu**, Chin-Cheng Hsu, Yu Tsao, Hsin-Min Wang, and Shyh-Kang Jeng
 - IEEE International Conference on Acoustics, Speech and Signal Processing
- Sensors 2016 **Transportation Modes Classification Using Sensors on Smartphones**
- Shih-Hau Fang, Hao-Hsiang Liao, Yu-Xiang Fei, Kai-Hsiang Chen, Jen-Wei Huang, **Yu-Ding Lu**, Yu Tsao
 - IEEE International Conference on Acoustics, Speech and Signal Processing

Project

- May. 2019 - Aug. 2019 **Cross-Modal Generation**
- Focused on Audio-Visual generation by using siamese network.
 - Applied this method on MRI to PET medical image generation.
- Sep. 2018 - Feb. 2019 **Spatial Audio Generation via Video and Mono Audio**
- Combined video and audio features to generate spatial audio.
 - Published this result in ICIP 2019.
- Jan. 2018 - Aug. 2018 **Speech Enhancement Application on AI chips**
- Developed noise reduction algorithm to fit chips.
 - Deployed this chip on "Xiaomi AI Speaker".
- Apr. 2017 - Dec. 2017 **Audio-Visual speech enhancement for ASR system**
- Used CNN to extract features for lips from video.
 - Combined video feature and MFCC to improve ASR system.
- Mar. 2016 - Mar. 2017 **Discriminative Autoencoders For Speaker Verification**
- Proposed a novel loss function aiming at speaker verification.
 - Encoded i-vector into a new feature representation and competed the-state-of-the-art method.

Technical Skills

Programming	Python, C++, Matlab, Bash Script
Toolbox / Software	Pytorch, TensorFlow, Keras, Kaldi, Sox, OpenCV, Matlab
Digital Audio Software	Logic Pro X, Garage Band, Ableton Live
Music	Electric Guiatar, Acoustic Guitar, PA Engineering

Leadership & Activities

- Staff **ROCLING 2017**, Taipei, Taiwan
- Assisted to host the top conference on computational linguistics and speech processing.
- Invited Talk **Deep Learning Introduction**, ASUS Cloud, Taipei, Taiwan
- Introduced the latest NN models and gave a speech about how to use Keras & TensorFlow.
- Director **Star Voice** - Club of Rock'n Roll, NCTU, Hsinchu, Taiwan
- Managed around 30 bands and arranged the public performance.
- Leader of PR Department **Electrical and Computer Engineering Summer Camp**, NCTU, Hsinchu, Taiwan
- Recruited for 150 students to join this camp and got 3000 USD sponsorships funds.
- Leader of Activities **Freshman Orientation Camp**, NCTU, Hsinchu, Taiwan
- Arranged activities for 300 freshmen.