

Justin Yang

RESEARCH ASSISTANT · ACADAMIA SINICA

Taipei, Taiwan

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Research Interest

Signal Processing, Speech Processing, Machine Learning

Education

National Chiao Tung University

Hsinchu, Taiwan

B.S. IN ELECTRICAL AND COMPUTER ENGINEERING

Sep. 2014 - Jun. 2018

- Cumulative GPA : 3.98 / 4.3
- Last 60 GPA : 4.18 / 4.3
- Related Graduate-Level Courses : **Detection and Estimation Theory** (A+), **Machine Learning** (A+), **Pattern Recognition** (A+), **Digital Signal Processing** (A+), **Deep Learning** (A+), **Computer Vision** (Current), **Time-frequency Analysis and Wavelet Transform** (Current)

Experience

Speech, Language and Music Processing (SLAM) Lab, Institute of Information Science, Academia Sinica

Taipei, Taiwan

RESEARCH ASSISTANT, ADVISOR: Prof. Hsin-Min Wang

Sept. 2017 - PRESENT

- To perform Voice Conversion (VC) with non-parallel corpora, we utilized pre-softmaxed Phonetic PosteriorGrams (PPGs), which is obtained from Automatic Speech Recognition (ASR) and serves as a speaker-independent feature. This stands for an intermediate feature to perform conversion, and Locally Linear Embedding (LLE) as the method to construct conversion utterances. This method reaches comparable performance with parallel VC methods and outperform other non-parallel methods.
- To eliminate the vocoder effects, which is one of the main causes of quality degradation, we proposed a vocoder-free Voice Conversion system with a combination of the previous exemplar-based Voice Conversion system and the Differential framework, which utilizes spectral difference to synthesize waveform, to construct Voice conversion.
- Participated in the **2nd Voice Conversion Challenge (VCC2018)**, both HUB and SPOKE task.
 - Proposed a Vocoder-Free exemplar-based Voice Conversion method for parallel corpora (HUB Task)
 - Proposed a exemplar-based Voice Conversion method for non-parallel corpora (SPOKE Task)

Speech, Language and Music Processing (SLAM) Lab, Institute of Information Science, Academia Sinica

Taipei, Taiwan

RESEARCH INTERN, ADVISOR: Prof. Hsin-Min Wang

Jul. 2017 - Aug. 2017

- Proposed a Perceptual Generative Adversarial Network with conditional input for image deblurring, which I utilized a pretrained VGG-19 network to take away the artifact effects on images in order to improve the performance of image deblurring.

Mobile Intelligent Network Technology Lab, Graduate Institute of Communications Engineering, National Chiao Tung University (NCTU)

Hsinchu, Taiwan

UNDERGRADUATE RESEARCH STUDENT, ADVISOR: Prof. Kai-Ten Feng

Feb. 2017 - Jun. 2017

- Developed the efficient millimeter wave beams power allocation, and users grouping system.
- Reaches 300% higher data rate per user compared to unidirectional traditional beamforming methods.

Human and Machine Lab, Graduate Institute of Electrical and Control Engineering, NCTU

Hsinchu, Taiwan

UNDERGRADUATE RESEARCH STUDENT, ADVISOR: Prof. Ku-Young Young

Sept. 2016 - Jan. 2017

- Designed and build an intelligent mobility aid named I-Go, which utilizes six-axis force sensor to sense the force on the handle, camera to recognize feet image from the user to trace the user's position and state, and LiDAR laser scanner to scan the environment in front of I-Go to perform obstacle avoidance, eventually decide the next behavior to be constructed by paired motors.
- Developed a cross-platform server for sensors to communicate each other.

Honors & Awards

2017 **1st Place**, Fall 2017 Presidential Award
2017 **Recipient**, Datatronics Technology Scholarship
Honored to Top 1 junior and senior student in college of ECE, NCTU,

NCTU ECE

Datatronics Technology Inc.

Skills

- Programming Languages: **C/C++**, **Python**, **Java**, **C#**, **Matlab**, **HTML**, **Verilog**
- Programming Libraries: **Tensorflow**, **OpenCV**