

# PIN-JUNG CHEN

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## EDUCATION

### Carnegie Mellon University, School of Computer Science

Aug. 2018 - Dec. 2019

Master of Computational Data Science (MCDS) | QPA: 3.78/4.33

Pittsburgh, PA

- Coursework: Introduction to Machine Learning (PhD), Language & Statistics, Introduction to Computer Systems, Interactive Data Science, Neural Networks for NLP, Large-Scale Multi-Media Analysis, Advanced Cloud Computing

### National Taiwan University

Aug. 2013 - Jan. 2018

B.S. in Electrical Engineering | GPA: 3.99/4.3 (3.88/4.0)

Taipei, Taiwan

- Honors & Awards: Dean's List (Spring 2014), Google Student Grants for ASRU 2017
- Coursework: Machine Learning, Artificial Intelligence, Intelligent Conversational Bot, The Design and Analysis of Algorithms, Introduction to Digital Speech Processing, Data Structure and Programming, Computer Architecture

## RESEARCH EXPERIENCES

### Weakly-Supervised 3D Reconstruction

Feb. 2017 - Jan. 2018

Undergraduate Researcher; Advisor: Prof. Yu-Chiang Frank Wang

National Taiwan University

- Proposed a unique architecture for joint learning of 3D models and associated disentangled features from single-view 2D images, which outperformed state-of-the-art methods by 9.9% in IoU in a weakly-supervised setting.
- Served as external reviewers for refereed papers for AAAI 2018.

### Spoken Dialog System

Sep. 2016 - Jul. 2017

Undergraduate Researcher; Advisor: Prof. Hung-Yi Lee

National Taiwan University

- First to formulate the ASR errors in spoken dialog systems as a domain adaptation problem and proposed an original Dual-Encoder Sequence-to-Sequence model which outperformed the baseline by 45% in BLEU Score. [ASRU 2017]

## WORKING EXPERIENCES

### National Taiwan University

Sep. 2017 - Jan. 2018

Teaching Assistant

Taipei, Taiwan

- EE5184 Machine Learning, EE4033 Algorithm

### NVIDIA AI Technology Center (NVAITC)

Feb. 2017 - Jul. 2017

Intern

Taipei, Taiwan

- Worked on accelerating deep neural network training and inference on DGX-1.

## SELECTED PROJECTS

### Speech Recognition, Introduction to Machine Learning [PyTorch, Scikit-Learn]

Nov. 2018 - Dec. 2018

- Implemented various machine learning methods including BiLSTM and CapsNet for audiovisual speech recognition.
- Performed multi-task learning using subword information to achieve 97.52% accuracy on a large dataset (500k videos).

### Proxy Lab, Introduction to Computer Systems [C]

Aug. 2018

- Developed a multi-threaded HTTP proxy with caching that works through a real web browser.

### Malloc Lab, Introduction to Computer Systems [C]

Jul. 2018

- Designed a segregated list memory allocator to achieve high throughput (21154 Kops/sec) and utilization (74.2%).

### MusicBot, Intelligent Conversational Bot [Python, TensorFlow]

Feb. 2017 - Jun. 2017

- Built a neural dialog system for music playing and recommendation with Spotify API and Flask as backend.
- Applied attention-based RNN for language understanding and Policy Gradient for dialog management.

### Transfer Learning on Stack Exchange Tags, Machine Learning [Python, Gensim, Scikit-Learn, NLTK]

Jan. 2017

- Predicted tags of Stack Exchange questions on the unseen physics category by machine learning and NLP methods.
- Ranked 8 in a class of 240 people and top 25% among 380 teams on Kaggle measured by mean F1-score.

## SKILLS

### Programming Languages

Python, C/C++, MATLAB, MySQL, Java

### Tools/Frameworks

Tensorflow, PyTorch, Keras, Git, L<sup>A</sup>T<sub>E</sub>X, LIBSVM, MapReduce, AWS

## PUBLICATION

- [1] **Pin-Jung Chen**, I-Hung Hsu, Yi-Yao Huang, and Hung-Yi Lee. "Mitigating the Impact of Speech Recognition Errors on Chatbot using Sequence-to-Sequence Model", in IEEE Workshop on Automatic Speech Recognition and Understanding (ASRU 2017), Okinawa, Japan, December 16-20, 2017. [link]