Yung-Sung Chuang

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link to this file: `bit.ly/yungsung`

Objective

With generally interested in **Natural Language Processing** and **Speech Processing**, I will apply for PhD programs in NLP starting in 2021 fall.

Education

National Taiwan University(NTU)   *Sep. 2016 - Jun. 2020*
B.S. IN ELECTRICAL ENGINEERING(SENIOR), GPA(UP TO NOW): **4.17/4.30**   *(EXPECTED)*
- **Honors:** Dean's List (S '18, S '19), Irving T. Ho Memorial Scholarship (F '18, F '19)
- **Selected Courses:** Data Structure and Programming 2017 Fall (**A+**), Machine Learning 2018 Spring (**A+**), Digital Speech Processing 2018 Fall (**A+**), Deep Learning for Computer Vision 2019 Spring (**A+**)

Research Experiences

Speech Processing & Machine Learning Lab, NTU, *Advisor: Dr. Hung-yi Lee*   *Aug. 2018 - PRESENT*
UNDERGRADUATE RESEARCHER
- Researching on **Language Model Pre-training** for speech and text to solve **Spoken Question Answering** tasks. [*ArXiv Link*]
- Researched on **Text Style Transfer** with CycleGAN architecture. [*Github Link*]

Machine Intelligence and Understanding Lab, NTU, *Advisor: Dr. Yun-Nung (Vivian) Chen*   *Feb. 2019 - PRESENT*
UNDERGRADUATE RESEARCHER
- Researched on Generating Conclusions from Medical RCT Papers. Accepted to **LOUHI 2019 workshop on EMNLP**. [*ArXiv Link*]
- Won the 2nd place in **2019 NTU CSIE Undergrad Special Research Exhibition**, and **Appier 1st Prize**.

Intelligent Agent Systems Lab, Academia Sinica, *Advisor: Dr. Wen-Lian Hsu*   *Jul. 2018 - Feb. 2019*
RESEARCH ASSISTANT AND RESEARCH INTERN
- Built a supervised **accurate collocation parsing system** with state-of-the-art deep learning methods. [*Github Link*]
- Developed a fully-unsupervised methods to find collocation pairs in a large corpus with Word2Vec technique. [*Github Link*]

Competitions & Awards

NCTS Health Hackathon 2018   *Jun. 2018*
1st Place with NT$120,000 (out of 18 teams) | [*News link*] | [*Cert. Link*]
- A hackathon on organized by *National Center for Theoretical Sciences* and *Mount Sinai Health System, New York*.
- Proposed an improved **system for doctors shifting in hospital** — PRO (Patient Relay Optimizer) to help doctors grasp all info about patients, status, tasks at a glance, reducing the risk of information shifting incompletely. [*Github Link*]
- Won the **1st place** of **2018 H. Spectrum Demo Day** (out of 21 teams) | [*News Link*]

MakeNTU 2018   *Mar. 2018*
Best Tech Award with NT$50,000 & **Microsoft Enterprise Award** (out of 50 teams) | [*Photo Link 1*] | [*Link 2*]
- A hackathon focus on the combination of hardware and software, organized by NTU
- Built an automatic machine for picking good coffee beans with deep learning technique, For better quality and time-saving.
- Placed in **top 8** in the finalist of **Microsoft Imagine Cup Taiwan National Final 2018**.

HackNTU 2017   *Jul. 2017*
1st Place of Department of Transportation with NT$50,000 (out of 100+ teams) | [*Photo Link*]
- Built a **smart bus bell system** for solving the problems of getting on the right bus in the huge and busy city.
- Exhibited on **WCIT2017 (World Congress on Information Technology)**. Made a presentation to visitors from all over the world.

Publications ([†] indicates equal contribution)

[1] **Yung-Sung Chuang** , Chi-Liang Liu , Hung-Yi Lee. "SpeechBERT: Cross-Modal Pre-trained Language Model for End-to-end Spoken Question Answering". Submitted to *ICASSP2019*.

[2] Alexander Te-Wei Shieh[†], **Yung-Sung Chuang**[†], Shang-Yu Su, Yun-Nung Chen. "Towards Understanding of Medical Randomized Controlled Trials by Conclusion Generation". In *Proceedings of the 10th International Workshop on Health Text Mining and Information Analysis at EMNLP (LOUHI 2019)*

[3] **Yung-Sung Chuang**. "Robust Chinese Word Segmentation with Contextualized Word Representations". *arXiv preprint arXiv:1901.05816*

Projects

Multi-Source Domain Adaptation Challenge [*Poster Link*]   *Jan. 2019*

Course Final Project of "**Deep Learning for Computer Vision**"

- Experimented on unsupervised domain adaptation (UDA) for multi-source dataset from ICCV2019 Workshop Challenge.
- Won the **second place** in **2019 NTUEE Undergraduate Innovation Award.** [*Photo Link*]

Pywordseg: State-of-the-art Chinese Word Segmentation Toolkit [*Github Link*] [*PyPI Link*]   *Jan. 2019*

Course Final Project of "**Digital Speech Processing**"

- Developed an open source **state-of-the-art** Chinese word segmentation system with BiLSTM and ELMo, helping the downstream Chinese NLP task.

Functionally Reduced And-Inverter Graph [*Github Link*]   *Jan. 2018*

Course Final Project of "**Data Structure and Programming**"

- Performing Boolean logic simulations and identify functionally equivalent candidate pairs in the circuit. Reducing the circuit size automatically.

Input Method Auto-Modifier [*Github Link*]   *Aug. 2017*

Personal Side Project

- A useful program can modify your input type between Chinese and English automatically according to the words you type in.

Emotion Recognition with OpenCV [*Github Link*]   *Jun. 2017*

Course Final Project of "**Introduction to Computer**"

- Identifying emotions of human faces images with OpenCV.

Big Two Game [*Github Link*]   *Jan. 2017*

Course Final Project of "**Computer Programming**"

- Developed a human-computer game program of the big-two game.
- Designed the main algorithm of the machine agent and the whole architecture of the game.

Activities

Director of NTUEE plus Department, Student Association of NTUEE   *Jun. 2018 - Aug. 2019*

- Developed a **social media network**, which will link together alumni and undergrad students of NTUEE.
- Hosted interviews, talks, providing information about the latest technological developments from alumni.

Guest Lecturer on Machine Learning 2019 Spring Course   *Mar. 2019*

- Introduced to research papers on **Unsupervised Syntactic Parsing** topics.
- Youtube Link: https://www.youtube.com/watch?v=YIuBHB9Ejok

Speaker on MakeNTU 2019 workshop at Taipei 101   *Mar. 2019*

- Taught to about 100+ people to use Microsoft Azure, OpenCV and Raspberry Pi 3 to build a face recognition locking system.
- Slide Link: https://bit.ly/MakeNTU2019

Skills

Languages	C++, Python, MATLAB, Shell Scripting
Libraries&Toolkits	Tensorflow, PyTorch, Keras, LaTeX, Git, Linux