

Yung-Sung Chuang

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link to this file: bit.ly/yungsung

Education

National Taiwan University(NTU)

Sept. 2016 - June 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+**), Algorithms 2019 Spring (**A+**), Machine Learning 2018 Spring (**A+**), Digital Speech Processing 2018 Fall (**A+**), Deep Learning for Computer Vision 2019 Spring (**A+**), Computer Architecture 2019 Fall (**A+**)

Research Experiences

Speech Processing & Machine Learning Lab, NTU, Advisor: [Dr. Hung-yi Lee](#)

Aug. 2018 - PRESENT

UNDERGRADUATE RESEARCHER

- Researching on **Non-autoregressive Speech-to-text Translation**.
- Researching on **Cross-Lingual Zero-shot Transfer** tasks.
- 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 [\[Github Link\]](#) and delete-insert-based Transformer. [\[Github Link\]](#)

Machine Intelligence and Understanding Lab, NTU, Advisor: [Dr. Yun-Nung \(Vivian\) Chen](#)

Feb. 2019 - PRESENT

UNDERGRADUATE RESEARCHER

- Researching on **Knowledge Distillation** to improve **Lifelong Learning** for natural language understanding tasks.
- 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](#)

July 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

June 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

July 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". In submission. *arXiv preprint arXiv:1910.11559*

[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 [\[Poster Link\]](#)

June 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 Environment and Agent [\[Github Link\]](#)

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=YluBHB9Ejok>

Speaker on MakeNTU 2019 workshop, 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