

# Yung-Sung Chuang

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## Education

### Massachusetts Institute of Technology (MIT)

Sep. 2021 - PRESENT

PH.D. STUDENT IN COMPUTER SCIENCE

- **GPA: 5.0/5.0** (up-to-date)
- Computer Science & Artificial Intelligence Laboratory (CSAIL), Advisor: Dr. James Glass
- Working on LLM factuality & reducing hallucinations & transparency.

### National Taiwan University (NTU)

Sep. 2016 - Jun. 2020

B.S. IN ELECTRICAL ENGINEERING

- **GPA:** overall: **4.18/4.30**, major: **4.22/4.30**
- **Honors:** Presidential Award \* 4 (S '18, S '19, F '19, S '20), Irving T. Ho Memorial Scholarship (F '18, F '19)

## Research Experiences

### Spoken Language Systems Group, CSAIL, MIT, Advisor: James Glass

Sep. 2021 - PRESENT

RESEARCH ASSISTANT

- Researched on **LLMs Alignment** to generate high-quality **Citations** via **Self-supervision**. [\[ICML'25\]](#)
- Researched on detecting **Context Hallucinations** with only **Attention Maps**. [\[EMNLP'24\]](#)
- Researched on reducing **Hallucination** and improving **Factuality** in of **LLM Decoding**. [\[ICLR'24\]](#)
- Researched on **Passage Retrieval** for **Open-domain Question Answering** with the power of **LLMs**. [\[ACL'23\]](#)
- Researched on **Difference-based Contrastive Learning** for unsupervised sentence embedding. [\[NAACL'22\]](#)
- Built a comprehensive and reproducible benchmark for **Self-supervised Speech Representation Learning**. [\[Interspeech'21\]](#)

### Meta, FAIR, Seattle, Advisor: Luke Zettlemoyer

May 2025 - PRESENT

RESEARCH INTERN

- Researching on **Reinforcement Learning** for **Visual Reasoning** (in progress).

### Meta, FAIR, Seattle, Advisors: Hu Xu & Daniel Li & Scott Yih

May 2024 - Jan 2025

RESEARCH INTERN

- Researching on **LLMs Alignment** to generate high-quality **Citations** via **Self-supervision**. [\[ICML'25\]](#)
- Researching on scaling CLIP models to multilingual web data: **MetaCLIP 2**. [\[arXiv'25\]](#)

### Microsoft, Redmond, Advisor: Pengcheng He

Jun. 2023 - Sep. 2023

RESEARCH INTERN

- Researching on reducing **Hallucinations** and improving **Factuality** in of **LLM Decoding**. [\[ICLR'24\]](#)

### Machine Intelligence and Understanding Lab, NTU, Advisor: Prof. Yun-Nung (Vivian) Chen

Feb. 2019 - Aug. 2020

UNDERGRADUATE RESEARCHER

- Researched on **Knowledge Distillation** to improve **Lifelong Learning** for language tasks. [\[EMNLP'20\]](#)
- Researched on **Cycle Consistency and Duality of NLU and NLG** to improve both NLU/NLG tasks. [\[EMNLP'20\]](#)
- Researched on Generating Conclusions from Medical RCT Papers. [\[LOUHI 2019@EMNLP\]](#)

### Speech Processing Lab, NTU, Advisor: Prof. Hung-yi Lee & Lin-shan Lee

Aug. 2018 - Aug. 2021

UNDERGRADUATE RESEARCHER

- Researched on **Non-autoregressive Speech-to-Text Translation**. [\[ACL'21\]](#)
- Researched on **End-to-end Spoken Language Understanding**. [\[ICASSP'21\]](#)
- Researched on **Cross-Lingual Zero-shot Transfer** tasks. [\[arXiv Link\]](#)
- Researched on **Language Model Pre-training** for speech and text to solve **Spoken Question Answering** tasks. [\[Interspeech'20\]](#)

## Selected Publications († indicates equal contribution.)

- [1] **Yung-Sung Chuang**, Yang Li, Dong Wang, Ching-Feng Yeh, Kehan Lyu, Ramya Raghavendra, James Glass, Lifei Huang, Jason Weston, Luke Zettlemoyer, Xinlei Chen, Zhuang Liu, Saining Xie, Wen-tau Yih, Shang-Wen Li, Hu Xu “**MetaCLIP 2: A Worldwide Scaling Recipe**”. *arXiv* 2025.
- [2] **Yung-Sung Chuang**, Benjamin Cohen-Wang, Shannon Shen, Zhaofeng Wu, Hu Xu, Xi Victoria Lin, James Glass, Shang-Wen Li, Wen-tau Yih “**SelfCite: Self-Supervised Alignment for Context Attribution in Large Language Models**”. *ICML* 2025.
- [3] **Yung-Sung Chuang**, Linlu Qiu, Cheng-Yu Hsieh, Ranjay Krishna, Yoon Kim, James Glass “**Lookback Lens: Detecting and Mitigating Contextual Hallucinations in Large Language Models Using Only Attention Maps**”. *EMNLP 2024 main (long)*.

- [4] **Yung-Sung Chuang**, Yujia Xie, Hongyin Luo, Yoon Kim, James Glass, Pengcheng He “DoLa: Decoding by Contrasting Layers Improves Factuality in Large Language Models”. *ICLR* 2024.
- [5] Hongyin Luo, **Yung-Sung Chuang**, Yuan Gong, Tianhua Zhang, Yoon Kim, Xixin Wu, Danny Fox, Helen Meng, James Glass “SAIL: Search-Augmented Instruction Learning”. *Findings of EMNLP* 2023.
- [6] **Yung-Sung Chuang**, Wei Fang, Shang-Wen Li, Wen-tau Yih, James Glass “Expand, Rerank, and Retrieve: Query Reranking for Open-Domain Question Answering”. *Findings of ACL* 2023.
- [7] Tianhua Zhang, Jiaxin Ge, Hongyin Luo, **Yung-Sung Chuang**, Mingye Gao, Yuan Gong, Xixin Wu, Yoon Kim, Helen Meng, James Glass “Natural Language Embedded Programs for Hybrid Language Symbolic Reasoning”. *NAACL* 2024.
- [8] **Yung-Sung Chuang**, Rumen Dangovski, Hongyin Luo, Yang Zhang, Shiyu Chang, Marin Soljačić, Shang-Wen Li, Wen-tau Yih, Yoon Kim, James Glass “DiffCSE: Difference-based Contrastive Learning for Sentence Embeddings”. *In Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL)* 2022.
- [9] Shu-wen Yang, Po-Han Chi<sup>†</sup>, **Yung-Sung Chuang**<sup>†</sup>, Cheng-I Jeff Lai<sup>†</sup>, Kushal Lakhotia<sup>†</sup>, Yist Y. Lin<sup>†</sup>, Andy T. Liu<sup>†</sup>, Jiatong Shi<sup>†</sup>, Xuankai Chang, Guan-Ting Lin, Tzu-Hsien Huang, Wei-Cheng Tseng, Ko-tik Lee, Da-Rong Liu, Zili Huang, Shuyan Dong, Shang-Wen Li, Shinji Watanabe, Abdelrahman Mohamed, Hung-Yi Lee. “SUPERB: Speech processing Universal PERFORMANCE Benchmark”. *In Interspeech* 2021.
- [10] **Yung-Sung Chuang**, Mingye Gao, Hongyin Luo, James Glass, Hung-Yi Lee, Yun-Nung Chen, Shang-Wen Li. “Mitigating Biases in Toxic Language Detection through Invariant Rationalization”. *In The 5th Workshop on Online Abuse and Harms at The Joint Conference of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing (WOAH@ ACL-IJCNLP)* 2021.
- [11] **Yung-Sung Chuang**, Shang-Yu Su, Yun-Nung Chen. “Lifelong Language Knowledge Distillation”. *In EMNLP* 2020.
- [12] **Yung-Sung Chuang**<sup>†</sup>, Shang-Yu Su<sup>†</sup>, Yun-Nung Chen. “Dual Inference for Improving Language Understanding and Generation”. *In Findings of EMNLP* 2020.
- [13] **Yung-Sung Chuang**, Chi-Liang Liu, Hung-Yi Lee, Lin-shan Lee. “SpeechBERT: An Audio-and-text Jointly Learned Language Model for End-to-end Spoken Question Answering”. *In Proc. Interspeech* 2020.

## Teachings & Talks

**Speaker** at Embodied Intelligence Seminar, MIT CSAIL

Apr. 2025

- Topic: Reducing Hallucinations in LLMs via Decoding, Detection, and Citation. [\[YouTube Link\]](#)

**Tutorial Speaker** at AACL-IJCNLP 2022

Nov. 2022

- Co-hosted a tutorial: **Recent Advances in Pre-trained Language Models: Why Do They Work and How to Use Them** with Prof. Hung-yi Lee and Cheng-Han Chiang at AACL-IJCNLP 2022. [\[Slide Link\]](#) [\[YouTube Link\]](#)
- Introduced the topic of **Contrastive Learning for Pre-trained Language Models**.

**Teaching Assistant** on Natural Language Processing 2023 Fall @MIT

Sep. 2023 - Dec. 2023

- Course website: <https://mit-6861.github.io/>

## Honors & Awards

**Reviewers**, NeurIPS (2021, 2022, 2023, 2024, 2025), ICLR (2021, 2022, 2023, 2024, 2025), ICML (2022, 2023, 2024, 2025), AAAI (2023), EMNLP (2022, 2023), ICASSP (2021, 2022, 2023), Interspeech (2021)

Apr. 2021 - PRESENT

**Presidential Award - for top 5% students (4 times)**, Electrical Engineering Dept. at NTU

Spring '18, Spring '19, Fall '19, Spring '20

**Irving T. Ho Memorial Scholarship (2 times)**, EECS at NTU

Fall '18, Fall '19

## Skills

**Languages** Python, C++, Go, MATLAB, Shell Scripting

**Libraries&Toolkits** PyTorch, Huggingface transformers, VeRL