

# Cheng-Han Chiang 姜成翰

SECOND-YEAR PH.D. STUDENT · NATIONAL TAIWAN UNIVERSITY

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## About me

I am a second-year Ph.D. student at National Taiwan University in Taipei, Taiwan. I am a member of the Speech Processing and Machine Learning (SPML) Lab, and I am very lucky to be advised by Prof. Hung-yi Lee. My main research interests broadly cover different aspects of natural language processing (NLP), mainly involving self-supervised learning, interpretability and analysis of NLP Models, adversarial attacks, and human evaluation.

## Education

### National Taiwan University (NTU)

Taipei, Taiwan

PH.D. STUDENT IN COMMUNICATION ENGINEERING

Feb 2022 - Present

- Advisor: Hung-yi Lee
- Direct pursuit of the Ph.D. degree
- M.S student in Graduate Institute of Communication Engineering (GICE) at National Taiwan University from Sep. 2020 to Jan. 2022

### National Taiwan University (NTU)

Taipei, Taiwan

B.S. IN ELECTRICAL ENGINEERING

Sept 2016 - June 2020

## Publications

### Conference Proceedings

- [1] Can Large Language Models Be an Alternative to Human Evaluation?  
**Cheng-Han Chiang**, Hung-yi Lee  
(To Appear) *Proceedings of the 61th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, 2023, Toronto, Canada
- [2] How Far Are We from Real Synonym Substitution Attacks?  
**Cheng-Han Chiang**, Hung-yi Lee  
(To Appear) *Findings of the Association for Computational Linguistics: ACL 2023*, 2023, Toronto, Canada
- [3] Recent Advances in Pre-trained Language Models: Why Do They Work and How Do They Work  
**Cheng-Han Chiang**, Yung-Sung Chuang, Hung-yi Lee  
*Proceedings of the 2nd Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics and the 12th International Joint Conference on Natural Language Processing: Tutorial Abstracts*, 2022, Taipei
- [4] On the transferability of pre-trained language models: A study from artificial datasets  
**Cheng-Han Chiang**, Hung-yi Lee  
*Proceedings of the AAAI Conference on Artificial Intelligence*, 2022
- [5] Pretrained Language Model Embryology: The Birth of ALBERT  
**Cheng-Han Chiang**, Sung-Feng Huang, Hung-yi Lee  
*Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2020, Online

### Workshop Paper

- [6] Re-Examining Human Annotations for Interpretable NLP  
**Cheng-Han Chiang**, Hung-yi Lee  
*Explainable Agency in Artificial Intelligence Workshop of the AAAI Conference on Artificial Intelligence*, 2022

### Preprints

- [7] Understanding, Detecting, and Separating Out-of-Distribution Samples and Adversarial Samples in Text Classification  
**Cheng-Han Chiang**, Hung-yi Lee  
*arXiv preprint arXiv:2204.04458* (2022)2022

## Professional Talks

### CONFERENCE TUTORIALS

## ICASSP 2023

Rhodes Island, Greece

PARAMETER-EFFICIENT LEARNING FOR SPEECH AND LANGUAGE PROCESSING: ADAPTERS, PROMPTS, AND REPROGRAMMING

2023

- Tutorial speaker for parameter-efficient learning in NLP

## AACL-IJCNLP 2022

Virtual

RECENT ADVANCES IN PRE-TRAINED LANGUAGE MODELS: WHY DO THEY WORK AND HOW DO THEY WORK

2022

- Main organizer of the tutorial
- Tutorial website: <https://d223302.github.io/AACL2022-Pretrain-Language-Model-Tutorial/>
- Tutorial recordings: <https://youtu.be/thr4-hgLhi8>

## Honors & Awards

2022 **Elite Doctoral Scholarship**, National Taiwan University

Taipei, Taiwan

2021 **Advanced Speech Technologies Scholarship**, National Taiwan University

Taipei, Taiwan

## Teaching Assistants

### Machine Learning 2023 Spring

Instructor: Prof. Hung-yi Lee

TEACHING ASSISTANT

Feb. 2023 - Jun. 2023

- Gave a 2-hour lecture on diverse topics of large language models.

### Machine Learning 2022 Spring

Instructor: Prof. Hung-yi Lee

TEACHING ASSISTANT

Feb. 2022 - Jun. 2022

- Gave a 2-hour lecture on the recent advances in pre-trained language models. Video is available: <https://youtu.be/NzElV8jTNmw>
- Gave a 3-hour lecture on the adversarial attacks in NLP. Videos are available: <https://youtu.be/681wXWFzCmg> and <https://youtu.be/681wXWFzCmg>

### Machine Learning 2021 Spring

Instructor: Prof. Hung-yi Lee

TEACHING ASSISTANT

Feb. 2021 - Jun. 2021

- Built, designed, and maintained the course website: <https://speech.ee.ntu.edu.tw/~hylee/ml/2021-spring.php>

### Machine Learning 2020 Spring

Instructor: Prof. Hung-yi Lee

TEACHING ASSISTANT

Feb. 2020 - Jun. 2020

- Gave a 2-hour lecture on graph neural network. Video is available: <https://youtu.be/M9ht8vsVEw8>
- Designed a homework on meta-learning

### Deep Learning for Human Language Processing 2020 Spring

Instructor: Prof. Hung-yi Lee

TEACHING ASSISTANT

Feb. 2020 - Jun. 2020

- In charge of homework on voice conversion

## Research Experience

### Supervisor: Dr. Hung-yi Lee

Taipei, Taiwan

NTU SPEECH PROCESSING AND MACHINE LEARNING LAB.

August. 2020 - Present

- Analysis of self-supervised learning models in NLP [5, 4, 3]
- Adversarial attacks in NLP [7, 2]
- Human evaluations in NLP [6, 1]

## Work Experience

### National Taiwan University Speech Lab.

Taipei, Taiwan

SYSTEM ADMINISTRATOR AND NETWORK ADMINISTRATOR

Feb. 2021 - Jan. 2022

- Managed a Slurm-based system with 20 GPUs

## Professional Activities

#### PROGRAM COMMITTEE

2021-Present

- International Conference on Machine Learning (ICML) - 2023
- Association for Computational Linguistics (ACL) - 2023
- European Chapter of the Association for Computational Linguistics (EACL) - 2023
- AAAI Conference on Artificial Intelligence (AAAI) - 2023
- Neural Information Processing Systems (NeurIPS) - 2022, 2023
- International Conference on Learning Representations (ICLR) - 2022, 2023
- Empirical Methods in Natural Language Processing (EMNLP) –2021, 2022

#### JOURNAL REVIEWER

2023-Present

- Transactions on Audio, Speech and Language Processing: 2023