

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** (which has evolved into **large language models** these days), **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

Research Experience

Supervisor: Dr. Hung-yi Lee

Taipei, Taiwan

NTU SPEECH PROCESSING AND MACHINE LEARNING LAB.

August. 2020 - Present

- **Large language models** and **self-supervised learning** [3, 5, 8, 7, 6]
- **Automatic evaluations** and **human evaluations** in NLP [3, 5, 2, 10]
- **Adversarial attacks** in NLP [4, 11]

Publications

In Proceedings

- [1] Over-Reasoning and Redundant Calculation of Large Language Models
Cheng-Han Chiang, Hung-yi Lee
Proceedings of the 18th Conference of the European Chapter of the Association for Computational Linguistics (Volume 2: Short Papers), 2024, St. Julian's, Malta
- [2] Why We Should Report the Details in Subjective Evaluation of TTS More Rigorously
Cheng-Han Chiang, Wei-Ping Huang, Hung-yi Lee
Proc. Interspeech 2023, 2023, Dublin, Ireland
- [3] A Closer Look into Automatic Evaluation Using Large Language Models
Cheng-Han Chiang, Hung-yi Lee
Findings of the Association for Computational Linguistics: EMNLP 2023, 2023, Singapore
- [4] Are Synonym Substitution Attacks Really Synonym Substitution Attacks?
Cheng-Han Chiang, Hung-yi Lee
Findings of the Association for Computational Linguistics: ACL 2023, 2023, Toronto, Canada
- [5] Can Large Language Models Be an Alternative to Human Evaluation?
Cheng-Han Chiang, Hung-yi Lee
Proceedings of the 61th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers), 2023, Toronto, Canada
- [6] 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
- [7] On the transferability of pre-trained language models: A study from artificial datasets
Cheng-Han Chiang, Hung-yi Lee
Proceedings of the AAIL Conference on Artificial Intelligence, 2022
- [8] 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 Papers

- [9] **Revealing the Blind Spot of Sentence Encoder Evaluation by HEROS**
Cheng-Han Chiang, Yung-Sung Chuang, James Glass, Hung-yi Lee
Proceedings of the 8th Workshop on Representation Learning for NLP, 2023, Toronto, Canada
- [10] **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

- [11] **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 2024

Seoul, Korea

PARAMETER-EFFICIENT AND PROMPT LEARNING FOR SPEECH AND LANGUAGE FOUNDATION MODELS

2024

- Tutorial speaker for prompt learning in NLP

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

2023 **Google PhD Fellowship**, Google

Global

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

Taipei, Taiwan

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

Taipei, Taiwan

Professional Activities

REVIEWER

2021-Present

- Conference reviewer: ICML (2023-2024), ACL (2022-2024), EACL (2023-2024), AAAI (2023), NeurIPS (2022-2023), ICLR (2022-2024), EMNLP (2021-2023) and ARR
- Journal reviewer: Transactions on Audio, Speech and Language Processing: 2023

Teaching Assistants

Introduction to Generative AI, 2024 Spring

Instructor: Prof. Hung-yi Lee

TEACHING ASSISTANT

Feb. - Jun. 2024

- The head TA of a course with over 1000 students and 30 teaching assistants
- Oversee the design and grading of each homework

Machine Learning: 2020 Spring, 2021 Spring, 2022 Spring, 2023 Spring

Instructor: Prof. Hung-yi Lee

TEACHING ASSISTANT

Feb. - Jun. 2020 - 2023

- Gave a 2-hour lecture on diverse topics of large language models.
- 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>
- Built, designed, and maintained the course website: <https://speech.ee.ntu.edu.tw/~hylee/ml/2021-spring.php>
- 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

TEACHING ASSISTANT

- In charge of homework on voice conversion

Instructor: Prof. Hung-yi Lee

Feb. 2020 - Jun. 2020

Work Experience

National Taiwan University Speech Lab.

SYSTEM ADMINISTRATOR AND NETWORK ADMINISTRATOR

- Managed a Slurm-based system with 20 GPUs

Taipei, Taiwan

Feb. 2021 - Jan. 2022