

Xuanjun Chen

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Education

National Taiwan University (NTU)

PH.D. STUDENT IN GRADUATE INSTITUTE OF COMMUNICATION ENGINEERING, GPA 4.30/4.30

M.S. IN COMPUTER SCIENCE AND INFORMATION ENGINEERING, GPA 4.19/4.30

• **Advisor:** Prof. [Jyh-Shing Roger Jang](#) and Prof. [Hung-yi Lee](#)

Taipei Taiwan

Sep. 2023 - Present

Sep. 2020 - Jan. 2023

National Taiwan University of Science and Technology (NTUST)

B.S. IN COMPUTER SCIENCE AND INFORMATION ENGINEERING, GPA 4.11/4.30

Taipei Taiwan

Sep. 2018 - Jun. 2020

Shenzhen Univ. of Information Technology (f.k.a. Shenzhen Institute of Information Technology, SZIT)

JUNIOR COLLEGE IN ELECTRONIC INFORMATION ENGINEERING TECHNOLOGY

Shenzhen China

Sep. 2015 - Jul. 2018

Selected Publications († indicates equal contribution.)

- [1] Chien-yu Huang, Wei-Chih Chen, Shu-wen Yang, Andy T. Liu, Chen-An Li, Yu-Xiang Lin, Wei-Cheng Tseng, Anuj Diwan, Yi-Jen Shih, Jiatong Shi, William Chen, **Xuanjun Chen**, et al., “[Dynamic-SUPERB Phase-2: A Collaboratively Expanding Benchmark for Measuring the Capabilities of Spoken Language Models with 180 Tasks](#)”. in *International Conference on Learning Representations (ICLR)*, Singapore, April 2025.
- [2] Chih-Kai Yang, Yu-Kuan Fu, Chen-An Li, Yi-Cheng Lin, Yu-Xiang Lin, Wei-Chih Chen, Ho Lam Chung, Chun-Yi Kuan, Wei-Ping Huang, Ke-Han Lu, Tzu-Quan Lin, Hsiu-Hsuan Wang, En-Pei Hu, Chan-Jan Hsu, Liang-Hsuan Tseng, I-Hsiang Chiu, Ulin Sanga, **Xuanjun Chen**, Po-chun Hsu, Shu-wen Yang, Hung-yi Lee, “[Building a Taiwanese Mandarin Spoken Language Model: A First Attempt](#)”. *Tech Report*, Nov. 2024.
- [3] Wenze Ren, Haibin Wu, Yi-Cheng Lin, **Xuanjun Chen**, Rong Chao, Kuo-Hsuan Hung, You-Jin Li, Wen-Yuan Ting, Hsin-Min Wang, Yu Tsao, “[Leveraging Joint Spectral and Spatial Learning with MAMBA for Multichannel Speech Enhancement](#)”. Submitted to *ICASSP 2025*, Sep. 2024.
- [4] **Xuanjun Chen**, Haibin Wu, Chung-Che Wang, Hung-yi Lee, Jyh-Shing Roger Jang “[Multimodal Transformer Distillation for Audio-Visual Synchronization](#)”. in the *2024 International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2024)*, Seoul, Korea, April 2024.
- [5] **Xuanjun Chen**, Haibin Wu, Jyh-Shing Roger Jang, Hung-yi Lee “[Singing Voice Graph Modeling for SingFake Detection](#)”. in *Interspeech 2024*, Kos Island, Greece, Sept 2024.
- [6] **Xuanjun Chen**[†], Jiawei Du[†], Haibin Wu, Jyh-Shing Roger Jang, Hung-yi Lee “[Neural Codec-based Adversarial Sample Detection for Speaker Verification](#)”. in *Interspeech 2024*, Kos Island, Greece, Sept 2024.
- [7] Haibin Wu, **Xuanjun Chen**, Yi-Cheng Lin, Kai-wei Chang, Ho-Lam Chung, Alexander H. Liu, Hung-yi Lee “[Towards audio language modeling-an overview](#)”. *Overview Report*, Feb. 2024.
- [8] Haibin Wu, Ho-Lam Chung, Yi-Cheng Lin, Yuan-Kuei Wu, **Xuanjun Chen**, Yu-Chi Pai, Hsiu-Hsuan Wang, Kai-Wei Chang, Alexander H. Liu, Hung-yi Lee “[Codec-SUPERB: An In-Depth Analysis of Sound Codec Models](#)”. in *Findings of the Association for Computational Linguistics ACL 2024*, Bangkok, Thailand, Aug 2024.
- [9] Haibin Wu, **Xuanjun Chen**, Yi-Cheng Lin, Jiawei Du, Kai-Wei Chang, Ke-Han Lu, Alexander Liu, Ho-Lam Chung, Yuan-Kuei Wu, Dongchao Yang, Songxiang Liu, Yi-Chiao Wu, Xu Tan, James Glass, Shinji Watanabe, and Hung-yi Lee “[Codec-SUPERB @ SLT 2024: A lightweight benchmark for neural codec models](#)”. in the *2024 IEEE Spoken Language Technology Workshop (IEEE SLT 2024)*, Macao, China, 2024.
- [10] Jiawei Du, I-Ming Lin, I-Hsiang Chiu, **Xuanjun Chen**, Haibin Wu, Wenze Ren, Yu Tsao, Hung-yi Lee, Jyh-Shing Roger Jang “[DFADD: The Diffusion and Flow-Matching based Audio Deepfake Dataset](#)”. in the *2024 IEEE Spoken Language Technology Workshop (IEEE SLT 2024)*, Macao, China, 2024.
- [11] Hsuan-Yu Lin, **Xuanjun Chen**, Jyh-Shing Roger Jang “[Singer separation for karaoke content generation](#)”. in *The 27th Oriental COCOSDA Conference (O-COCOSDA 2024)*, Hsinchu, Taiwan, Oct 2024.
- [12] **Xuanjun Chen**[†], Haibin Wu[†], Helen Meng, Hung-yi Lee, Jyh-Shing Roger Jang “[Push-Pull: Characterizing the Adversarial Robustness for Audio-Visual Active Speaker Detection](#)”. in the *2022 IEEE Spoken Language Technology Workshop (IEEE SLT 2022)*, Doha, Qatar, Jan 2023.
- [13] **Xuanjun Chen**[†], Yen-Lun Liao[†], Chung-Che Wang, Jyh-Shing Roger Jang “[Adversarial Speaker Distillation for Counter-measure Model on Automatic Speaker Verification](#)”. in *Proc. 2nd Symposium on Security and Privacy in Speech Communication (SPSC 2022)*, Incheon, Korea, Sept 2022.

Awards

2024	Google Student Travel Grant , Google LLC	Travel Grant
2024	National Science and Technology Council (NSTC) Conference Subsidies , NSTC Taiwan	Travel Grant
2024	CTCI Foundation Bursary Award for Overseas Students Taiwan CTCI Foundation	Bursary Award
2020-2025	Distinguished Academic Record Award (5 years) , Taipei Kwong Tong Community Associations	Scholarship
2021	Ranked 3rd of the logical access track of the ASVspoof 2021 challenge , Interspeech 2021	3rd/42 Worldwide
2018-2020	Certificate of Achievement (Top 5%, 3 semesters) , NTUST	Scholarship
2017	National Bronze & Guangdong Provincial Gold Awards , 3rd China College Internet Entrep. Comp.	3rd Nationwide
2016-2017	National Encouragement Scholarship (Only 3%) & 3rd Prize of Academic Award (Top 20%)	SZIIT Scholarship

Research Experiences

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

Sept. 2023 - Present

RESEARCH ASSISTANT

- **[Research]** Researched on **Neural Audio Codec Model** and **Multimodal Large Language Model**
 - Co-built a large-scale spoken language model benchmark, ensuring standardized evaluation tasks. [\[ICLR '25\]](#)
 - Co-built a neural audio codec benchmark [\[ACL Findings '24\]](#) and co-organize a neural audio codec challenge [\[SLT '24\]](#).
 - Contributed to an audio language modeling report comparing methodologies systematically. [\[arXiv '24\]](#)
 - Contributed to a technical report on spoken language models for neural audio codec evaluation. [\[arXiv '24\]](#)
- **[Project]** Leading a student AI team in **TAIHUCAIS: TAIwan Humanities Conversational AI Knowledge Discovery System**
 - Developing a multi-agent system for humanities research scenarios based on Large Language Models [\[Demo\]](#).

Multimedia Information Retrieval Lab, NTU, Advisor: Prof. [Jyh-Shing Roger Jang](#)

Oct. 2020 - Present

RESEARCH ASSISTANT

- **[Research]** Researched on **Multimodal Biometric Authentication**. Co-Advisor: Prof. [Hung-yi Lee](#); Mentor: Dr. [Haibin Wu](#)
 - Proposed a SingGraph model using music and speech foundation models for SingFake detection [\[Interspeech 2024\]](#)
 - Proposed a lightweight audio-visual active speaker detection model via Transformer distillation schema [\[ICASSP 2024\]](#)
 - Proposed neural codec-based adversarial sample detection method for speaker verification [\[Interspeech 2024\]](#)
 - Built a diffusion and flow-matching based deepfake speech dataset [\[SLT 2024\]](#)
 - Analyzed model vulnerabilities and proposed a Push-Pull loss function against adversarial attack [\[SLT 2022\]](#)
 - Proposed a lightweight anti-spoofing model achieving competitive performance with small size [\[ISCA SPSC 2022\]](#).
- **[Research]** Researched on **Source Separation**
 - Proposed a MAMBA-based multichannel speech enhancement model using spectral-spatial information [\[arXiv 2024\]](#).
 - Built a singer separation dataset [\[O-COCOSDA 2024\]](#).
- **[Academic Challenge]** Automatic Speaker Verification Spoofing Countermeasures (ASVspoof) 2021 challenge
 - Ranked **3rd out of 42 submissions** in the logical access track of the ASVspoof 2021 challenge of **Interspeech 2021**.

Leadership and Service

PROFESSIONAL SERVICES

2023-Now	Reviewer / Program Committee , EMNLP (2025), ACL (2024), ICASSP (2023-2025), LREC-COLING/COLING (2024-2025), MLSP (2024), IALP (2024), ECCV AVGenL (2024)
2024	Technical Committee , Codec-SUPERB Challenge at IEEE 2024 Spoken Language Technology Workshop (SLT 2024)
2024-2025	Teaching Assistant , EE5200: Introduction to Generative AI (2024 Spr.) and EE5184: Machine Learning (2025 Spr.) , NTU

CROSS-FUNCTIONAL SERVICES

2023-Now	Administrative Assistant , NVIDIA-NTU Artificial Intelligence Joint Research Center, NTU
2021-2022	Vice Director , Mainland Alumni Association, NTU
2019	Head Volunteer , The Fourth Cross-Strait Youth Maker Competition, Tongji University, Shanghai & Suzhou, China
2019	Propaganda Minister and Teaching Material Leader , Asia-Pacific University Volunteers Association, NTUST
2016-2018	Team Leader , founded a photography studio and led the propaganda department of the speaking club at SZIIT

Open Source and Skills

Open Source	Official repository of MTDVocaLiST model for Audio-Visual Synchronization task (Starred 23)
Open Source	Official repository of SingGraph model for SingFake Detection task (Starred 22 , Fork 4)
PLs and Toolkits	Python, LaTeX, Shell; PyTorch, Huggingface, PyTorch Lightning, Numpy, Pandas, Matplotlib.