

CHEN, XUANJUN

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EDUCATION

National Taiwan University (NTU) Master of Science in Computer Science and Information Engineering (GPA: 4.20/4.30) Advised by Prof. Hung-Yi Lee and Prof. Jyh-Shing Roger Jang.	Sep 2020 - Jan 2023 <i>Taipei Taiwan</i>
National Taiwan University of Science and Technology (Taiwan Tech) Bachelor of Science in Computer Science and Information Engineering (GPA: 4.11/4.30)	Sep 2018 - Jun 2020 <i>Taipei Taiwan</i>
Shenzhen Institute of Information Technology (SZIIT) Junior College in Electronic Information Technology Engineering	Sep 2015 - Jul 2018 <i>Shenzhen Guangdong</i>

SUMMARY

My research interests include but are not limited to deep learning, audio-visual learning, and speech processing.

EXPERIENCE

National Taiwan University - Multimedia Information Retrieval Lab Research Assistant, supervised by Prof. Jyh-Shing Roger Jang	Oct. 2020 - Present <i>Taipei Taiwan</i>
Audio-Visual Neural Network Model	
<ul style="list-style-type: none">Proposed multimodal Transformer distillation for the audio-visual synchronization model, reducing teacher parameters by 83.52%, achieving competitive performance and providing comprehensive analysis. [1].Revealed the vulnerability of the audio-visual active speaker detection model in many ways, such as single- and multi-modal attacks, three-attack algorithms, white- and black-box attackers, and training-aware and inference-aware scenarios. [2]Proposed audio-visual interaction loss enables inter-class dispersion and intra-class compactness, which outperforms the adversarial training by 33.14 mAP (%) under multi-modal attacks. [2]	
Automatic Speaker Verification and Spoofing Countermeasures (ASVspoof)	
<ul style="list-style-type: none">Ranked 3rd out of 42 teams in the logical access track of the ASVspoof 2021 challenge. [Ranking]Proposed ASD-ResNetSE model combines generalized end-to-end pre-training and adversarial fine-tuning, achieves competitive performance with only 22.5% teacher parameters and 19.4% teacher MACs [3].	

PUBLICATION & PREPRINT

(*EQUAL CONTRIBUTION, †EQUAL CORRESPONDENCE)

- Multimodal Transformer Distillation for Audio-Visual Synchronisation**
Xuanjun Chen, Haibin Wu, Chung-Che Wang, Hung-Yi Lee[†], and Jyh-Shing Roger Jang[†]
Submitted to ICASSP 2023. [*arXiv*]
- Push-Pull: Characterizing the Adversarial Robustness for Audio-Visual Active Speaker Detection**
Xuanjun Chen^{*}, Haibin Wu^{*}, Helen Meng[†], Hung-Yi Lee[†], and Jyh-Shing Roger Jang[†]
In 2022 IEEE Spoken Language Technology Workshop (SLT). IEEE, 2022. [*IEEE*][*arXiv*][*Demos*][*Poster*]
- Adversarial Speaker Distillation for Countermeasure Model on Automatic Speaker Verification**
Yen-Lun Liao^{*}, **Xuanjun Chen**^{*}, Chung-Che Wang, and Jyh-Shing Roger Jang
In Proc. 2nd Symposium on Security and Privacy in Speech Communication (pp. 30-34)., 2022. [*ISCA*][*arXiv*]
- Singer Separation for Karaoke Content Generation**
Hsuan-Yu Chen, **Xuanjun Chen**, and Jyh-Shing Roger Jang
arXiv preprint arXiv:2110.06707 (2021). [*arXiv*][*demo*]

AWARD & SCHOLARSHIP

Distinguished Academic Record Award (4 years), Taipei Kwong Tong Community Associations	2020 - 2023
Certificate of Achievement (3 times), Department of CSIE, Taiwan Tech (top 5% Student)	2019 - 2020
National Bronze Award, 3rd China College Students' "Internet +" Innovation and Entrepreneurship Competition	2017
Guangdong Provincial Gold Award, 3rd China College Students' "Internet +" Innovation and Entrepreneurship Competition	2017
3rd Place of Academic Award, Department of EITE, SZIIT (top 20% Student)	2017
National Encouragement Scholarship, SZIIT (only 3% student)	2016

ACTIVITY

Reviewer, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)	2023
Volunteer, the Fourth Cross-Strait Youth Maker Competition, Tongji University, Shanghai, China	2019

SKILL

Programming languages: Python, C++, C	ML/AI: Pytorch, Numpy, Pandas, Matplotlib
Miscellaneous: MySQL, Git, Shell, Latex, Django	Languages: Mandarin, Cantonese, English