

# CHEN, XUANJUN

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## EDUCATION

<b>National Taiwan University (NTU)</b> 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>
<b>National Taiwan University of Science and Technology (Taiwan Tech)</b> Bachelor of Science in Computer Science and Information Engineering (GPA: 4.11/4.30)	Sep 2018 - Jun 2020 <i>Taipei Taiwan</i>
<b>Shenzhen Institute of Information Technology (SZIIT)</b> 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

<b>National Taiwan University - Multimedia Information Retrieval Lab</b> Research Assistant, supervised by Prof. Jyh-Shing Roger Jang	Oct. 2020 - Present <i>Taipei Taiwan</i>
<b>Audio-Visual Neural Network Model</b>	
<ul style="list-style-type: none"><li>Proposed multimodal Transformer distillation for the audio-visual synchronization model, reducing teacher parameters by 83.52%, achieving competitive performance and providing comprehensive analysis. [1].</li><li>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]</li><li>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]</li></ul>	
<b>Automatic Speaker Verification and Spoofing Countermeasures (ASVspoof)</b>	
<ul style="list-style-type: none"><li>Ranked 3rd out of 42 teams in the logical access track of the ASVspoof 2021 challenge. [Ranking]</li><li>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].</li></ul>	

## PUBLICATION & PREPRINT

(\*EQUAL CONTRIBUTION, †EQUAL CORRESPONDENCE)

- Multimodal Transformer Distillation for Audio-Visual Synchronisation**  
**Xuanjun Chen**, Haibin Wu, Chung-Che Wang, Hung-Yi Lee<sup>†</sup>, and Jyh-Shing Roger Jang<sup>†</sup>  
Submitted to ICASSP 2023. [*arXiv*]
- Push-Pull: Characterizing the Adversarial Robustness for Audio-Visual Active Speaker Detection**  
**Xuanjun Chen**<sup>\*</sup>, Haibin Wu<sup>\*</sup>, Helen Meng<sup>†</sup>, Hung-Yi Lee<sup>†</sup>, and Jyh-Shing Roger Jang<sup>†</sup>  
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<sup>\*</sup>, **Xuanjun Chen**<sup>\*</sup>, 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% of students)	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% of students)	2017
National Encouragement Scholarship, SZIIT (only 3% of students)	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

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