Jiawei Du

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EDUCATION

National Taiwan University — **Taipei, Taiwan**
M.S. in Computer Science and Information Engineering, GPA 4.03/4.3 — *Sep. 2022 - Jun. 2025*

- Interests: Anti-spoofing, Neural Audio Codec and Audio Centric Multimodal LLM.
- Supervised by Prof. Jyh-Shing Roger Jang and work intensively with Prof. Hung-yi Lee.
- Ranking 1/189 in the department in the 2023/24 academic year.

MingChuan University — **Taoyuan, Taiwan**
B.S. in Information and Telecommunications Engineering, GPA 3.98/4.0 — *Sep. 2018 - Jun. 2022*

- Ranking 1/79 in the department cumulatively.

Shanghai Jiao Tong University — **Shanghai, China**
Exchange Student in Computer Science and Technology — *Sep. 2020 - Jan. 2021*

PUBLICATIONS

- **J. Du***, X. Chen*, H. Wu, L. Zhang, I.M. Lin, I.H. Chiu, W. Ren, Y. Tseng, Y. Tsao, J.S.R. Jang, and H.Y. Lee, "CodecFake-Omni: A Large-Scale Codec-based Deepfake Speech Dataset," IEEE/ACM Transactions on Audio, Speech, and Language Processing (Submitted to TPAMI 2025)
- **J. Du***, X. Chen*, H. Wu, J.S.R. Jang, and H.Y. Lee, "Neural Codec-based Adversarial Sample Detection for Speaker Verification," ISCA Proc. Interspeech 2024 (Poster at Interspeech 2024)
- **J. Du***, I.M. Lin*, I.H. Chiu*, X. Chen, H. Wu, W. Ren, Y. Tsao, et.al, "DFADD: The Diffusion and Flow-Matching Based Audio Deepfake Dataset," 2024 IEEE Spoken Language Technology Workshop (Poster at SLT 2024)
- H. Wu, **J. Du***, X. Chen*, Y.C. Lin*, K.W. Chang*, K.H. Lu*, A.H. Liu*, H.L. Chung*, Y.K. Wu*, D. Yang*, S. Liu, Y.C. Wu, X. Tan, J. Glass, S. Watanabe, and H.Y. Lee, "Codec-SUPERB@ SLT 2024: A lightweight benchmark for neural audio codec models," 2024 IEEE Spoken Language Technology Workshop (Poster at SLT 2024)
- H. Wu*, H.C. Chou*, K.W. Chang, L. Goncalves, **J. Du**, et al., "Open-Emotion: A Reproducible EMO-SUPERB for Speech Emotion Recognition Systems," 2024 IEEE Spoken Language Technology Workshop (Poster at SLT 2024)
- H. Wu*, H.C. Chou*, K.W. Chang, L. Goncalves, **J. Du**, J.S.R. Jang, C.C. Lee, and H.Y. Lee, "Empower Typed Descriptions by Large Language Models for Speech Emotion," 2024 Asia Pacific Signal and Information Processing Association Annual Summit and Conference (Oral at APSIPA ASC 2024)
- H. Wu*, H.C. Chou*, K.W. Chang, L. Goncalves, **J. Du**, J.S.R. Jang, C.C. Lee, and H.Y. Lee, "EMO-SUPERB: An In-depth Look at Speech Emotion Recognition," arXiv preprint arXiv:2402.13018 (Preprint 2024)
- **J. Du***, C.C. Wang*, and J.S.R. Jang, "Dcase 2023 task 6b: Text-to-audio retrieval using pretrained models," Detection and Classification of Acoustic Scenes and Events 2023 (DCASE Tech. Rep 2023)

RESEARCH EXPERIENCE

Research Assistant — **Taipei, Taiwan**
MIR LAB, National Taiwan University — *Sep. 2022 - Jun. 2025*

- Examined Neural Audio Codec applications in deepfake detection, proposed codec-based synthetic audio as a novel spoofing category, and systematically analyzed and categorized existing Neural Audio Codecs (paper).
- Proposed a Neural Audio Codec based method for adversarial sample detection in Automatic Speaker Verification, achieving a 99.32% (SoTA) detection performance on ASV systems (paper).
- Explored limitations in anti-spoofing datasets, proposed a dataset for detecting TTS-generated audio from Diffusion and Flow matching based models, achieving up to 47% EER reduction on OOD testsets (paper).
- Studied audio-visual deepfake localization, improving the SoTA model UMMAFormer from 13.1% to 75.7% mAP@50 on our private dataset via LoRA tuning.
- Leaded team to achieve 5.33% EER (ranked 13/49) in Singing Voice Deepfake Detection Challenge (results).
- Explored audio-text retrieval using VALOR and cross attention, achieving 3rd place in DCASE Challenge (results).

SKILLS

Programming Languages: Python, C/C++
ML Libraries & Tools: PyTorch, Sklearn, Pandas, Numpy, OpenCV, Git, WSL, Linux, LaTeX
Language: Mandarin (native), English (IELTS 6.5)
Services: Reviewer of IEEE SLT 2024, IEEE JSTSP 2024, IJPRAI 2024; Technical committee of Codec-SUPERB