

Fang-Duo Tsai

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Education

PhD National Taiwan University , Graduate Institute of Communication Engineering	09.2025 ~
<ul style="list-style-type: none"> Research areas: Song Generation Advisors: Prof. Yi-Hsuan Yang 	
MS National Taiwan University , Graduate Institute of Communication Engineering	09.2023 ~06.2025
<ul style="list-style-type: none"> Research areas: Controllable Text-to-Music, Music editing, Diffusion Models Advisors: Prof. Yi-Hsuan Yang, Prof. Hao-Chung Cheng 	
BS National Taiwan University , Electrical Engineering	02.2020 ~06.2023
<ul style="list-style-type: none"> Research areas: Text-to-Music, Deep Learning and Computer Vision, Wifi motion detection Advisors: Prof. Yi-Hsuan Yang, Prof. Yu-Chiang, Frank Wang, Prof. Hung-Yun Hsieh 	

Publications

[1] Fang-Duo Tsai , Yi-An Lai, Fei-Yueh Chen, Li Chai, Hao-Chung Cheng, Yi-Hsuan Yang "ComposerFlow: Step-by-Step Compositional Song Generation" In <i>International Conference on Machine Learning (under review)</i> , 2025. [Demo website]	09.2025
[2] Fang-Duo Tsai , Yi-Hsuan Yang "Demonstrating Singing accompaniment capabilities for MuseControlLite" In <i>The Thirty-Ninth Annual Conference on Neural Information Processing Systems (Neurips Music4AI workshop demo)</i> , 2025.	08.2025
[3] Wei-Jaw Lee, Fang-Chih Hsieh, Xuanjun Chen, Fang-Duo Tsai , Yi-Hsuan Yang "Demonstrating Singing accompaniment capabilities for MuseControlLite" In <i>The 26th International Society for Music Information Retrieval Conference (ISMIR LBD)</i> , 2025.	07.2025
[4] Fang-Duo Tsai , Shih-Lun Wu, Weijaw Lee, Sheng-Ping Yang, Bo-Rui Chen, Hao-Chung Cheng, Yi-Hsuan Yang. "MuseControlLite: Multifunctional Music Generation with Lightweight Conditioners" In <i>International Conference on Machine Learning (ICML)</i> , 2025. [arXiv] [Code] [Demo website] [google colab]	01.2025
[5] Fang-Duo Tsai , Shih-Lun Wu, Haven Kim, Bo-Yu Chen, Hao-Chung Cheng, Yi-Hsuan Yan. "Audio Prompt Adapter: Unleashing Music Editing Abilities for Text-to-Music with Lightweight Finetuning." In <i>International Society for Music Information Retrieval Conference (ISMIR)</i> 2024. [arXiv] [Code] [Demo website] [Demo video]	04.2024

Other Research Experiences

Computer vision and Personalization , Prof. Yu-Chiang Frank Wang, NTU	09.2022 ~6.2023
Traditional Chinese Instrument Generation , Prof. Yi-Hsuan Yang, NTU	09.2023 ~12.2023
Text-to-Music with RLAIIF , Prof. Shao-Hua Sun, NTU [paper]	09.2023 ~1.2024
WiFi Estimation for Person Pose , Prof. Hung-Yun Hsieh, NTU	02.2022 ~6.2022

Teaching Experience

Probability and statistics , instructed by Prof. Hung-Yun Hsieh, NTU.	02.2022 ~06.2022
<ul style="list-style-type: none"> Evaluated and scored homework, quizzes, and exams for 130 students. Answered questions during office hours every week. 	Teaching assistant
Deep Learning for Computer Vision , instructed by Prof. Yu-Chiang Wang, NTU.	09.2024 ~12.2024
<ul style="list-style-type: none"> Evaluated and scored programming assignments for 140 students. 	Teaching assistant

- Organized and hosted a contest for the final project.

Deep Learning for Music Analysis and Generation,

- Designed homework related to controllable text-to-music and retrieval. [slides [🔗](#)]
- Advised student for final project.

Reinforcement Learning, instructed by Prof. Shao-Hua Sun, NTU

- Invited as a judge for final project presentation.

09.2025 ~12.2025
Teaching assistant

12.2024
Final presentation judge

Working experiences

Taiwan AI Lab, Research intern

03.2025 ~

- Proposed **ComposerFlow**, a song generation pipeline that leverages the knowledge of multiple models to achieve low-cost, fast training.
- Compared **ComposerFlow** with other song generation models with state-of-the-art models, and showed comparable performance, while retaining the flexibility to edit the vocal melody, chord progression and the backing music.

Realtek, Software engineering

07.2022 ~08.2022

- Provided code for converting different audio encoding for audio files.
- Provided shell script for testing Google TV and Netflix on television chips.

Honors and Recognition

National Science and Technology concil PhD scholarship, awarded with **NTD\$1,500,000** scholarship

09.2025

Direct PhD scholarship, awarded with **NTD\$1,500,000** scholarship

06.2025

SIGMIR scholar, awarded with **US\$1000** scholarship

08.2024

1st prize, 3D Reconstruction from Road Marker Feature Points contest | NTUEE, against **15** teams.

06.2023

Best Creative Award of Robot Car Design Performance | NTUEE, against **24** teams.

07.2020

Peer review

ICLR (2025), **Neurips Music4AI workshop** (2025), **ISMIR** (2025), **ACM survey journal** (2025)

Invited talks

"Controllable Text-to-Music", at NTU DeepMIR course.

10.2025

"MuseControlLite: Multifunctional Music Generation with Lightweight Conditioners" at Rochester Audio Information Research Lab.

07.2025

Extracurricular activities

Violinist: Honorable Mention in Violin Solo, National Student's Music Contest

11.2017

Kick-boxer: Member of the NTU Kick-boxing team.

02.2020 ~02.2021

Runner, school's fields day | NEHS

2016 ~2018

- 1st place: 100-meter race
- 1st place: 400-meter race
- 2nd place: 200-meter race