

# JINGWEI ZHAO

✉ [jzhao@u.nus.edu](mailto:jzhao@u.nus.edu) 🌐 [zhaojw1998.github.io](https://zhaojw1998.github.io)

## EDUCATION

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### National University of Singapore (NUS)

2021 – Present

- Ph.D. Candidate in Data Science
- Supervisor: *Assoc. Prof. Ye Wang*
- Research Area: Computer music, music generation, and co-creation.
- Teaching Assistant: CS4347/5647 Sound and Music Computing (2023 Autumn); CS5228 Knowledge Discovery and Data Mining (2023 Autumn); CS5242 Neural Networks and Deep Learning (2022 Spring & Autumn).

### Shanghai Jiao Tong University (SJTU)

2017 – 2021

- B.E. *with Honours* in Automation
- Core Courses: Signals and Systems (93/100); DSP (90/100); Discrete Mathematics (99/100); Machine Learning (91/100); Music Theory (100/100); National Music Singing (95/100); Symphony Appreciation (95/100).

## PUBLICATION

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- **Jingwei Zhao**, Gus Xia, and Ye Wang, “AccoMontage-3: Full-Band Accompaniment Arrangement via Sequential Style Transfer and Multi-Track Function Prior.” *arXiv:2310.16334* (2023). [[paper](#)] [[demo](#)] [[code](#)]
- Lejun Min, Junyan Jiang, Gus Xia, and **Jingwei Zhao**, “Polyffusion: A Diffusion Model for Polyphonic Score Generation with Internal and External Controls,” in *ISMIR 2023*. [[paper](#)] [[demo](#)]
- **Jingwei Zhao**, Gus Xia, and Ye Wang, “Q&A: Query-Based Representation Learning for Multi-Track Symbolic Music re-Arrangement” in *IJCAI 2023*. [[paper](#)] [[code](#)] [[demo](#)] [[video](#)]
- **Jingwei Zhao**, Gus Xia, and Ye Wang, “Beat Transformer: Demixed Beat and Downbeat Tracking with Dilated Self-Attention,” in *ISMIR 2022*. [[paper](#)] [[code](#)] [[demo](#)] [[video](#)]
- **Jingwei Zhao**, Gus Xia, and Ye Wang, “Domain Adversarial Training on Conditional Variational Auto-Encoder for Controllable Music Generation,” in *ISMIR 2022*. [[paper](#)] [[code](#)] [[demo](#)] [[video](#)]
- Li Yi, Haochen Hu, **Jingwei Zhao**, and Gus Xia, “AccoMontage2: A Complete Harmonization and Accompaniment Arrangement System,” in *ISMIR 2022*. [[paper](#)] [[code](#)]
- **Jingwei Zhao**, and Gus Xia, “AccoMontage: Accompaniment Arrangement via Phrase Selection and Style Transfer,” in *ISMIR 2021*. [[paper](#)] [[code](#)] [[video](#)]

## RESEARCH EXPERIENCE

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### NUS, Institute of Data Science (IDS)

Aug 2021 – Present

Ph.D. Candidate | Supervisor: Ye Wang | Sound and Music Computing Lab

- **Music representation disentanglement & style transfer** for music re-arrangement, generation, and co-creation.
- **Audio beat & downbeat tracking** via demixed and dilated self-attention.

### MBZUAI, Department of Machine Learning

Jun 2022 – Aug 2022

Research Intern | Advisor: Gus Xia | Music X Lab

- AccoMontage-MT: an upgraded system for **multi-track accompaniment arrangement**. [[demo](#)]

### NYU Shanghai, Department of Computer Science

July 2020 – July 2021

Research Intern | Advisor: Gus Xia | Music X Lab

- AccoMontage: a hybrid approach (neural style transfer + rule-based style planning) for whole-piece **piano accompaniment arrangement**. [[demo](#)]

### SJTU, Department of Automation

Oct 2019 – Jul 2020

Research Intern | Advisor: Yue Gao | RL2 Lab

- Real-time **music-driven dance motion generation** for humanoid robot. [[demo](#)]

## HONOURS

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- NUS Graduate School Research Incentive Award *2023 – Present*
- NUS President’s Graduate Fellowship *2021 – Present*
- SJTU Zhiyuan Honour Degree of Bachelor of Engineering *2021*
- SJTU Han-Ying-Ju-Hua Scholarship *2019-2020*
- SJTU Undergraduate Excellence Scholarship *2018-2021*
- SJTU Zhiyuan Honours Scholarship *2017-2021*

## ACTIVITIES & ACADEMIC SERVICES

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- Invited exhibitor at IDS Open House *May 19, 2023*
- Organizer & performer for NUS Sound and Music Computing Concert [\[2022\]](#) [\[2023\]](#)
- Conference reviewer: ICLR 2024; ACM MM 2024
- Senior conference volunteer: NIME 2021

## MISCELLANEOUS

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### Music Skills

- Professional accordion player (started since age 6)
- Baritone singer (4 years service at SJTU Student Chior)

### Programming

- Languages: Python, C/C++, and MATLAB
- Frameworks: PyTorch and Tensorflow

### Software

- Media editing with Adobe Premiere and Audition
- Music production with Cakewalk and BandLab