Weixi Zhai

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Education

Quanzhou Normal University **China**
Master of Arts in Music *2023 - present(Expected 2026)*
Advisor: Prof. Jianbin Xiahou

- Thesis (in progress): Deep Learning Based Music Generation on Nanyin Musical Features
  - Nanyin is a UNESCO-recognized traditional Chinese music genre

China West Normal University **China**
Bachelor of Science in Communication Engineering *2017 - 2021*

- Coursework: Signals and Systems, Digital Signal Processing, DSP Techniques and Applications

Publications and Under Review Manuscripts

- Weixi Zhai, **"Leveraging PerTok and Domain-Specific Transformer Design for Expressive MIDI Ornament Generation,"** in *ISMIR 2025 Late-Breaking/Demo*, 2025.

- Weixi Zhai, **"Blaming the Algorithm: An Analysis of Interpolation Failures in MusicVAE's Latent Space,"** 3rd Workshop on Human-Centric Music Information Research (HCMIR@ISMIR), 2025.

- Weixi Zhai, **"Weak Tokenization: A Preliminary Study of Dynamic Audio Chunking for Irregular Music Generation"**, ISMIR 2025 Workshop LLM4Music

- Weixi Zhai, **"Story2Nanyin: Chordless, Narrative-Driven Heterophonic Multi-Track MIDI Generation"**, ICML 2025 NewinML workshop.

- Jianbin Xiahou, **Weixi Zhai**, Xu Cui, **"Oral Tradition-Encoded NanyinHGNN: Integrating Nanyin Music Preservation and Generation through a Pipa-Centric Dataset"**, submitted to CSMT 2025, 12th National Conference on Sound and Music Technology, **under review**

Research

AI-Based Music Generation on Nanyin Music(Project No. FJ2023JDZ050) ongoing
Advised by Prof. Jianbin Xiahou

- Proposed an AI model for Nanyin music integrating representation learning and generative composition to address scarcity of traditional works and support analysis, creative generation, and cultural preservation.
- Constructed a Pipa-centric dataset and leveraged a Heterogeneous Graph Neural Network (HGNN) to reconstruct heterophonic accompaniments in Nanyin music.

Workshops & Academic Engagements

Digital Score Solutions in the Context of Artificial Intelligence Technology Nov 2024 – Jun 2025
DigiScore Lab, Central Conservatory of Music.

- developed a project proposal for a digital score visualizing real-time MusicVAE interpolation. Participated in two online discussions with Prof. Kenneth Fields and peers, culminating in a final panel discussion on the DigiScore project.

Marginalized Music Genres and AI Music Generation Jan 2024
Hosted by Prof. Nick Bryan-Kinns

- Discussed challenges of applying low-resource generative models to underrepresented musical traditions, contributing ideas on sustainable and equitable AI in music generation.

Academic Service

Reviewer: ISMIR 2025 Workshop LLM4Music