Lejun Min

Researcher, Artist
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EDUCATION

Center for Computer Research in Music and Acoustics, Stanford University Sept. 2024 – Present
Master of Arts in Music, Science, and Technology (Fellowship) California, United States

- GPA: 4.0 / 4.0.
- Advisor: Prof. Julius O. Smith, Prof. Takako Fujioka.

ACM Honor Class, Shanghai Jiao Tong University Sept. 2019 – June 2023
Bachelor of Engineering in Computer Science (Fellowship) Shanghai, China

- An elite CS program for **top 5%** students.
- GPA: 89/100 (ranking: 5/27).

PUBLICATIONS

L. Min, S. Chen, M. Bosi, "Leveraging Rotational M/S Coding and Machine Learning in Stereo Audio Coding", in *International Workshop on Sound Signal Processing Applications (IWSSPA 2025)*, Costa Ballena, Spain, July 2025. [Program]

X. Qu, Y. Bai, Y. Ma, Z. Zhou, K. Lo, J. Liu, R. Yuan, **L. Min**, X. Liu, T. Zhang, X. Du, S. Guo, Y. Liang, Y. Li, S. Wu, J. Zhou, T. Zheng, Z. Ma, F. Han, W. Xue, G. Xia, E. Benetos, X. Yue, C. Lin, X. Tan, S. Huang, W. Chen, J. Fu, G. Zhang, "MuPT: A Generative Symbolic Music Pretrained Transformer", in *Proc. 13th International Conference on Learning Representations (ICLR 2025)*, Singapore, April 2025. [arXiv] [OpenReview] [Demo]

Z. Wang, **L. Min**, G. Xia, "Whole-song Hierarchical Generation of Symbolic Music Using Cascaded Diffusion Models", **Spotlight (top 5%)** in *Proc. 12th International Conference on Learning Representations (ICLR 2024)*, Vienna, Austria, May 2024. [arXiv] [OpenReview] [Demo]

L. Min, J. Jiang, G. Xia, J. Zhao, "Polyffusion: A Diffusion Model for Polyphonic Score Generation with Internal and External Controls", in *Proc. 24th International Society for Music Information Retrieval Conference (ISMIR 2023)*, Milan, Italy, November 2023. [arXiv] [Poster] [Demo]

RESEARCH EXPERIENCE

Smule AI Lab, Research Intern Oct. 2025 – Present

- Building a music-text joint embedding that addresses the modality gap of contrastive learning.
- Advisor: Yongyi Zang.

Sony Computer Science Laboratories - Paris, Research Intern June 2025 - Sept. 2025

- Designed an end-to-end (re-)mixing and mastering system using audio representation learning and generation. This is one of the pioneer works on automatic mixing with a fully generative approach.
- Advisor: Dr. Stefan Lattner.

Music X Lab, MBZUAI, Research Assistant Sept. 2023 – Feb. 2024

- Designed and implemented comprehensive experiments for the hierarchical generation of symbolic music, with a cascaded diffusion model as backend. Work published at ICLR 2024.
- Advisor: Prof. Gus Xia.

Music X Lab, MBZUAI, Research Assistant June 2022 – Dec. 2022

- Achieved state-of-the-art polyphonic music generation using diffusion models, with two novel control paradigms: internal control via masked generation, and external control via cross-attention mechanism. Work published at ISMIR 2023.
- Advisor: Prof. Gus Xia.

Music X Lab, NYU Shanghai, Undergraduate Researcher Jan. 2022 – May 2022

- Projected piano and orchestral scores to a joint latent space with variational autoencoders, and applied contrastive learning on the latent space with end-to-end autoencoder training.
- Advisor: Prof. Gus Xia.

TEACHING

Reinforcement Learning (CS3316), Teaching Assistant at SJTU Spring 2023

- Designed a final project that involves single- or multi-agent learning for simulated hands and legged robot.
- Lecturer: Prof. Weinan Zhang.

Design and Analysis of Algorithms (AI2615), Teaching Assistant at SJTU Spring 2022

- Prepared well-written lecture notes and answers for assignments.
- Lecturer: Prof. Chihao Zhang.

Principle and Practice of Computer Algorithms (CS1952), Teaching Assistant at SJTU Summer 2021

- Designed a comprehensive ray tracing tutorial written in the Rust language. The repository received 100+ stars on GitHub.
- Lecturer: Prof. Yong Yu.

PROGRAMMING PROJECTS

Computer Graphics

Gigantic Splight (*Python*) June 2022

An interactive 3D fluids simulation based on Taichi framework.

Scotty3D (*C++*) Mar. 2022

A comprehensive CG project including software rastization, interactive mesh editing, path tracing, and dynamic animation.

Ray Tracer (*Rust*) Aug. 2020

A complete ray tracing engine in Rust.

Compiler & Computer Architecture

Mx Compiler (*Java*) May 2021

A completely hand-made compiler for a toy language (Java subset) that surpasses `-O1` optimization.

RISC-V CPU (*Verilog*) Dec. 2020

An emulated 5-pipelined RISCV32I CPU with real-world FPGA implementation.

Python Interpreter (*C++*) Feb. 2020

A Python language interpreter.

Algorithm & Data Structure

Train Ticket System (*C++*) June 2020

A cooperated project including backend coding, B+ Tree data structure implementation and frontend website design.

ART PRACTICES

Live Performance & Intermedia Art

Sound Poetry, *for 2-channel audio & vocalists* Dec. 2025
A musique concrète sound poem about dream, and a mandarin (grape) fugue.

Umbrella, *for Ambisonics audio & video* Dec. 2025
An intermedia piece exploring the nature of self and fear.

Interplanetary Concert, *for 2-channel audio, video, & live performer* Oct. 2025
Breaking the fourth wall with the interplanetary teleportation system.

A Chan Conversation, *for Ambisonics audio, Gametrak, & live performer* May 2025
A sonic conversation with an ancient Chan Buddhist monk. Performed on CCRMA Open House Concert 2025.

Interface & Interactive Design

Sonic Skateboard (*Arduino & ChucK*) June 2025
Turn my skateboard into a musical instrument.

Talking to A Black Hole (*ChucK & ChuGL & WGSL*) Dec. 2024
Let the noise guide you through the event horizon of a lonely black hole.

Kandinsky Sonified (*ChucK & ChuGL*) Nov. 2024
An interactive audiovisual music sequencer that creates and sonifies Kandinsky-like abstract paintings.

Fireflies (*ChucK & ChuGL*) Oct. 2024
An interactive music therapy journey embodying a firefly. Essentially a sound peeking visualization.

Music & Sound Art

The Backrooms: Audio Drama, *for binaural audio* Dec. 2024
The protagonist "no-clipped" into a weird space where he heard things beyond his comprehension.

忆久 (Memories Last Long) June 2023
A song and a music video dedicated to the Zhiyuan College graduates of 2023.

Should Have Known Better (piano & synth cover) Feb. 2023
Piano, synth, & singing recording.

晚海 (Sunset Sea) Dec. 2021
A single published under CEM Records.

LANGUAGE PROFICIENCY

Mandarin Chinese (native), English (fluent), French (beginner)
TOEFL: **112** (Reading **30**, Listening **30**, Speaking **24**, Writing **28**)
GRE: Verbal **162**, Quantitative **170**, Writing **4.0**