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* California, United States

- GPA: 4.0 / 4.0.
- Advisor: Prof. Marina Bosi, Prof. Takako Fujioka.

Zhiyuan College, Shanghai Jiao Tong University Sept. 2019 – June 2023
Bachelor of Engineering in *Computer Science* (Fellowship) Shanghai, China

- Member of **ACM Honor Class**, an elite CS program for **top 5%** students.
- Graduated with **top 1%** *Outstanding Bachelor's Thesis*.
- 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 Labs, Research Intern Oct. 2025 – Present

- Building a music-text joint embedding that addresses the modality gap of contrastive learning.
- Supervisor: 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 a pioneering study on automatic mixing with a fully generative approach. Work under preparation for publication.
- Supervisor: Dr. Stefan Lattner.

SoundPatrol & Stanford University, Research Assistant Feb. 2025 – May 2025

- Trained a singer representation model that discerns deep fake singing synthesis as potential copyright infringement. Reduced the equal error rate (EER) by 10% and boosted the top-1 accuracy up to 96% on the *SingFake* dataset.
- Advisor: Prof. John Thickstun, Prof. Walter De Brouwer.

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.

SKILLS

Research Specialties	Music Generation, Music Information Retrieval, Representation & Multimodal Learning, Digital Signal Processing, Human-Computer Interaction
Programming Languages	C++, C, Python, Java, Rust, Verilog, Lua, Arduino, WGSL, Bash, LaTeX, Typst
Machine Learning	PyTorch, TensorFlow, Accelerate, Lightning
Development Environment	Arch Linux (main OS), Neovim (main editor), Ubuntu, VSCode, Git, Docker
Audio & Graphics Software	JUCE, ChucK, Reaper, Adobe Audition, FL Studio, Pure Data, Audacity, Blender, Adobe Premiere, Kdenlive, Krita

AWARDS & HONORS

CCRMA Flagship Project Award Feb. 2025
Chiang Chen Overseas Graduate Fellowship (one of 10 awardees in Mainland China) Jan. 2025
CCRMA Fellowship Sept. 2024
SJTU Outstanding Bachelor's Thesis (one of 41 awardees out of 3873 graduates in 2023) June 2023
Longhu Scholarship (top 5% in Zhiyuan College) Apr. 2023
SJTU Student of Merit (one awardee in each major) Dec. 2021
Zhiyuan Honorary Scholarship 2019 - 2023

TEACHING

Perceptual Audio Coding (Music 422), **Stanford**, Teaching Assistant (Upcoming) Winter 2026

- Lecturer: Prof. Marina Bosi.

Reinforcement Learning (CS 3316), **SJTU**, Teaching Assistant 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 (AI 2615), **SJTU**, Teaching Assistant Spring 2022

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

Principle and Practice of Computer Algorithms (CS 1952), **SJTU**, Teaching Assistant 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
An electronic music piece 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**