Lejun Min

Researcher, Artist

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EDUCATION

Center for Computer Research in Music and Acoustics, Stanford University   Sept. 2024 – Present
Master of Art 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

Music-text Joint Embedding   Oct. 2025 – Present
Research Intern at [Smule](#) AI Lab   Remote

- Building the next-generation music-text joint embedding.
- Advisor: Yongyi Zang.

Automatic Mixing with Audio Representation Learning and Generation   June 2025 - Sept. 2025
Research Intern at [Music Team](#) of [Sony CSL Paris](#)   Paris, France

- 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.

Hierarchical Generation and Performance Rendering of Symbolic Music   Sept. 2023 – Feb. 2024
Research Assistant at [Music X Lab](#), MBZUAI   Abu Dhabi, United Arab Emirates

- 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.

Controllable Symbolic Music Generation with Diffusion Models   June 2022 – Dec. 2022

Research Assistant at <u>Music X Lab</u>, MBZUAI   Abu Dhabi, United Arab Emirates

- 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.

Deep Learning on Piano Reduction and Orchestration   Jan. 2022 – May 2022

Researcher at <u>Music X Lab</u>, New York University, Shanghai   Shanghai, China

- 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.

PROGRAMMING PROJECTS

Computer Graphics

<u>Gigantic Splight</u> (*Python*)   June 2022

An interactive 3D fluids simulation based on Taichi framework.

<u>Scotty3D</u> (*C++*)   Mar. 2022

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

<u>Ray Tracer</u> (*Rust*)   Aug. 2020

A complete ray tracing engine.

Audio Signal Processing

<u>Simple EQ</u> (*C++*)   Jan. 2022

A step-by-step JUCE learning project for audio plugin development.

<u>Audiobia</u> (*Python & Tensorflow*)   May 2021

Audio classification using Google's EfficientNet and Harmonic Percussive Source Separation (HPSS).

Compiler, Computer Architecture & System

<u>Mx Compiler</u> (*Java*)   May 2021

A completely hand-made compiler for a toy language (Java subset) that surpasses `-o1` optimization.

<u>RISC-V CPU</u> (*Verilog*)   Dec. 2020

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

<u>Python Interpreter</u> (*C++*)   Feb. 2020

A Python language interpreter.

Software Development

<u>Train Ticket System</u> (*C++*)   June 2020

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

ART PRACTICES

Live Performance & Intermedia Art

Sonic Skateboard (*Arduino & ChucK*)   June 2025

Turn my skateboard into a musical instrument.

A Chan Conversation   May 2025

A sonic conversation with an ancient Chan Buddhist monk. A Live performance that explores spatialized sound perception with Ambisonics. Performed on CCRMA Open House Concert 2025.

Interface / Narrative Design

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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

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忆久 (Memories Last Long)   June 2023

A song and a music video dedicated to the graduates of 2023, Zhiyuan College.

Should Have Known Better (piano & synth cover)   Feb. 2023

Piano, synth & singing performance.

晚海 (Sunset Sea)   Dec. 2021

A single published under CEM Records, one of the most prestigious electronic music labels in China.

TEACHING

Reinforcement Learning (CS3316)   Spring 2023

Teaching Assistant at SJTU   Shanghai, China

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

Design and Analysis of Algorithms (AI2615)   Spring 2022

Teaching Assistant at SJTU   Shanghai, China

- Lecturer: Prof. Chihao Zhang.

Principle and Practice of Computer Algorithms (CS1952)   Summer 2021

Teaching Assistant at SJTU   Shanghai, China

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

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**