

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

- Ongoing courses: [Audio Signal Processing](#), [Music, Computing, Design](#), [Human-Centered LLMs](#).
- Advisor: Prof. Julius O. Smith, 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%** talented students.
- GPA: 88.5 / 100 (**top 10 student**).

PUBLICATIONS

Xingwei Qu, Yuelin Bai, Yinghao Ma, Ziya Zhou, Ka Man Lo, Jiaheng Liu, Ruibin Yuan, **Lejun Min**, Xueling Liu, Tianyu Zhang, Xinrun Du, Shuyue Guo, Yiming Liang, Yizhi Li, Shangda Wu, Juntao Zhou, Tianyu Zheng, Ziyang Ma, Fengze Han, Wei Xue, Gus Xia, Emmanouil Benetos, Xiang Yue, Chenghua Lin, Xu Tan, Stephen W. Huang, Wenhui Chen, Jie Fu, Ge Zhang, “MuPT: A Generative Symbolic Music Pretrained Transformer”, submitted to *Proc. 13th International Conference on Learning Representations (ICLR 2025)*. [[arXiv](#)] [[Demo](#)]

Ziyu Wang, **Lejun Min**, Gus 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, May 2024. [[arXiv](#)] [[OpenReview](#)] [[Demo](#)]

Lejun Min, Junyan Jiang, Gus Xia, Jingwei 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, November 2023. [[arXiv](#)] [[Poster](#)] [[Demo](#)]

RESEARCH EXPERIENCE

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.
- Experimented on performance rendering for symbolic music using Transformer architecture.
- Advisor: Prof. Gus Xia.

Controllable Symbolic Music Generation with Diffusion Models June 2022 – Dec. 2022
Research Assistant at Music X Lab, MBZUAI Abu Dhabi, United Arab Emirates

- Achieved state-of-the-art polyphonic music generation using diffusion models.
- Devised two control paradigms for music generation in the diffusion model framework: internal control via masked generation, and external control via cross-attention mechanism.
- Advisor: Prof. Gus Xia.

Deep Learning on Piano Reduction and Orchestration Jan. 2022 – May 2023
Researcher at Music X Lab, New York University, Shanghai Shanghai, China

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

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

- Prepared well-written lecture notes and answers for assignments.
- 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

PROGRAMMING PROJECTS

More content can be accessed on my [project page](#).

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 rasterization, interactive mesh editing, realistic path tracing, and dynamic animation.

Ray Tracer (Rust)

Aug. 2020

A complete ray tracing engine.

Audio Signal Processing

Simple EQ (C++)

Jan. 2022

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

Audiobia (Python & Tensorflow)

May 2021

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

Compiler, Computer Architecture & System

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 RISC-V CPU with real-world FPGA implementation.

Python Interpreter (C++)

Feb. 2020

A Python language interpreter.

Software Development

Train Ticket System (C++)

June 2020

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

ART PRACTICES

More content can be accessed on my [portfolio](#) page.

Interface / Narrative Design

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

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.

Painting

Monochrome

Oct. 2022

Monochromatic drawings on paper and whiteboard.

Pastels

July 2019

Pastel paintings mimicking dull pictures.