

# Lejun Min

Researcher, Artist

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## EDUCATION

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### Center for Computer Research in Music and Acoustics (CCMRA), Stanford

Master of Music, Science, and Technology

Sept. 2024 - Present  
California, United States

- Advisor: Prof. Julius O. Smith.

### Zhiyuan College, Shanghai Jiao Tong University

Bachelor of Engineering in Computer Science

Sept. 2019 – June 2023  
Shanghai, China

- Member of **ACM Honor Class**, an elite CS program for **top 5%** talented students.
- GPA: 88.5 / 100 (**top 10 student**).

## PUBLICATIONS

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Ziyu Wang, **Lejun Min**, Gus Xia, “Whole-song Hierarchical Generation of Symbolic Music Using Cascaded Diffusion Models”, **Spotlight (top 5%)** in *Proc. 12<sup>th</sup> International Conference on Learning Representations (ICLR 2024)*, Vienna, May 2024. [[OpenReview](#)]

**Lejun Min**, Junyan Jiang, Gus Xia, Jingwei Zhao, “Polyffusion: A Diffusion Model for Polyphonic Score Generation with Internal and External Controls”, in *Proc. 24<sup>th</sup> International Society for Music Information Retrieval Conference (ISMIR 2023)*, Milan, November 2023. [[arXiv](#)] [[poster](#)]

## ACADEMIC EXPERIENCE

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### Hierarchical Generation and Performance Rendering of Symbolic Music

Research Assistant at MBZUAI

Sept. 2023 - Feb. 2024  
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

Research Assistant at MBZUAI

June 2022 – Dec. 2022  
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

Researcher at Music X Lab, New York University, Shanghai

Jan. 2022 – May 2023  
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.

### Approximating Holant problems in 3-regular graphs

Researcher at John Hopcroft Center for Computer Science

Sept. 2021 – Dec. 2021  
Shanghai, China

- Constructed gadgets for approximation of Holant problems in 3-regular graphs.
- Applied complexity results from Ising Model to Holant problems by reduction.
- Advisor: Prof. Chihao Zhang.

## TEACHING

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### Design and Analysis of Algorithms (AI2615)

Spring 2022

Teaching Assistant at SJTU

Shanghai, China

- Prepared well-written standard answers for class assignments.
- Graded homework and final exam.
- 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.
- Designed algorithm programming tests for grading.
- Supervisor: Prof. Yong Yu.

## LANGUAGE PROFICIENCY

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TOEFL: 112 (Reading 30, Listening 30, Speaking 24, Writing 28)

GRE: Verbal 162, Quantitative 170, Writing 4.0

## SKILLS

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### Computer Science Skills

- C, C++, Python, Java, Rust, Verilog, Git.
- Proficient in machine learning coding, strategies and frameworks.
- Experienced in designing compilers, architecture, and computer systems.
- Sophisticated skills in managing projects and debugging.
- Linux and open-source software enthusiastic.
- Experienced in Unity game development and audio plugin development using JUCE framework.

### Musical Abilities

- Guzheng (the Chinese zither) Performance Level 10 (the highest nonprofessional level in China) qualified.
- Piano Performance Level 10 qualified.
- Singing Performance Level 6 qualified.
- Published an electronic music piece under Chinese Electronic Music (CEM) Records, one of the most prestigious electronic music labels in China.

### Artistic Capacities

- Trained on pencil sketching and pastel painting.
- Well-versed in world literature.
- Experienced in 3D modeling using Blender.

## LEADERSHIP

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### Zhihui Camp, Zhiyuan College

Sept. 2020

Group Leader

Shanghai, China

- Led a team of 10 students in knowledge contests, volunteering and several social activities.
- Ranked first among 12 groups from Zhiyuan College.

### Zhiyuan Traditional Culture Festival

May 2020

Group Leader

Shanghai, China

- Directed, filmed and edited an online traditional Chinese music ensemble.
- Won the first prize.

## **Dongfang Lüzhou Soirée (Freshmen Welcome Party)**

Dec. 2019

Performance Director

Shanghai, China

- Directed an on-stage mime performance comprising dance, singing and interactive installations.
- Won the Silver Prize among 7 groups.