

# Lejun Min

Researcher, Artist

Zhiyuan College, Shanghai Jiao Tong University

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## EDUCATION

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### Zhiyuan College, Shanghai Jiao Tong University

Bachelor of Engineering in Computer Science

Shanghai, China

Sept. 2019 - Present

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

## ACADEMIC EXPERIENCE

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### Controllable Symbolic Music Generation with Diffusion Models

Research Assistant at *Machine Learning Department, MBZUAI*

Abu Dhabi, UAE

Jun. 2022 – Present

- Generalized piano reduction and orchestration into a mutual symbolic music generation task.
- Devised an image-like piano-roll format for diffusion models that achieve excellent generative quality.
- Developed an autoregressive inpainting mechanism to generate music segments of arbitrary length.
- Adopted cross-attention conditioning to add latent musical controls over music generation.
- Advisor: Prof. Gus Xia.

### Deep Learning on Piano Reduction and Orchestration

Researcher at *Music X Lab, New York University, Shanghai*

Shanghai, China

Jan. 2022 – Present

- Projected piano and orchestral scores to a joint latent space with variational autoencoders.
- Introduced a neural network to transform between latent orchestral representations and the latent piano representations.
- 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*

Shanghai, China

Sept. 2021 – Dec. 2021

- 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)

Teaching Assistant at *SJTU*

Shanghai, China

Spring 2022

- Prepared well-written standard answers for class assignments.
- Graded homework and final exam.
- Lecturer: Prof. Chihao Zhang.

### Principle and Practice of Computer Algorithms (CS1952)

Teaching Assistant at *SJTU*

Shanghai, China

Summer 2021

- Designed a comprehensive ray tracing tutorial written in the Rust language. The open-source 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.
- Proficient in electronic music production and mixing.
- 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.

## LEADERSHIP

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### Zhihui Camp, Zhiyuan College

Group Leader

Shanghai, China

*Sept. 2020*

- 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

Group Leader

Shanghai, China

*May 2020*

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

### Dongfang Lüzhou Soirée (Freshmen Welcome Party)

Performance Director

Shanghai, China

*Dec. 2019*

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