Zixuan Guo

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EDUCATION

New York University New York, NY

Master of Music in Music Technology *Expected in 05/2026*

➢ **Relevant Courses:** Digital Signal Theory, Advanced Computer Music, Max programming, Music Information Retrieval, Deep Learning for Media, Machine Listening, Tonmeister Technology (sound engineering), Creating With Interactive Media, Advanced Topics Music Technology: C++Audio Application, among others.

Jilin University Jilin, China

Bachelor of Science in Computer Science and Technology 08/2019 – 06/2024

➢ **Cumulative GPA:** 3.41/4.0

➢ **Relevant Courses:** Analog and Digital Logic Circuit, Object-Oriented Programming, Software Engineering, Algorithm Design and Analysis, Operating Systems, Data Structures, Machine Learning, Linux Practice, among others.

Berklee College of Music Boston, MA

Five-Week Summer Performance Program 07/2023 – 08/2023

➢ **Relevant Courses:** Songwriting, Musicianship, among others.

ACADEMIC PROJECTS

➢ **Controllable Symbolic AI System for Music Composition (In Progress)**

NYU Music Technology / with Prof. Juan P. Bello

- Develop an interactive symbolic music generation system with DAW integration.
- Support segment-by-segment interaction and structure-first workflows with user control over generation parameters.
- Design a multi-model architecture combining Transformer and Diffusion models.

➢ **Symbolic Music Style Transfer (In Progress)**

Collaboration with graduate students from Ohio State University

- Design symbolic-to-symbolic transfer models that preserve structural integrity while adapting genre-specific phrasing and rhythm.
- Investigate dynamic attention strategies and mitigate exposure bias using augmented MAESTRO training data.

➢ **Noise-Robust Musical Instrument Classification**

NYU + ISMIR Submission Project / with Prof. Magdalena Fuentes

- Lead the collaborative development of a classification system under real-world noisy conditions.
- Implement curriculum learning, SNR-aware ensemble models, and a harmonic-enhanced fallback strategy to improve robustness.

➢ **DeepSqueak Pipeline Modernization**

Collaboration with NYU Langone Health & Prof. Kevin Coffey, University of Washington

- Modernize the DeepSqueak system by replacing its legacy architecture with a modern ML pipeline built for scalability and modularity.
- Enhance model robustness through noise-augmented training and incorporation of negative samples to improve discrimination under low SNR conditions.
- Contributed model design and training strategies that were presented by Prof. Coffey at a recent research talk, which received strong community interest in the design decisions and refinement methods.

SKILLS

➢ *Language Proficiency:* Mandarin (native), English (fluent - TOEFL iBT 100)

➢ *Music Production Skills:* Logic Pro X, Ableton Live, Pro Tools

➢ *Programming Skills:* Python (NumPy, Pandas, Matplotlib, PyTorch, SciPy, Librosa/Soundfile), OpenCV, C/C++ (PortAudio, libsndfile, ncurses, JUCE), MATLAB, Max/MSP, SuperCollider, Linux