HAN ZHANG

SOUND ARTIST, ENGINEER, COMPOSER, PERFORMER

CONTACT INFO

E-mail zhanghanpqqo@gmail.com

haz074@ucsd.edu

Website zhanghanpqqo.github.io/HanZhang/

EDUCATION

Ph.D. Student in Computer Music **2020.9 - Present**

University of California, San Diego | *Music Department*

- Principal teachers: Tom Erbe, Miller Puckette, Alexandro Segade

M.S. in Electrical Engineering **2019.8 - 2021.6**

Northwestern University | *McCormick School of Engineering*

- Principal Advisor: Thrasyvoulos Pappas, Julius Smith(CCRMA, Stanford University), Bryan Pardo
-

B.S. in Automation **2015.8 - 2019.7**

Tsinghua University | *Department of Automation*

Minor in Music Technology and Engineering **2017.8 - 2019.7**

Tsinghua University | *Center for Arts Education*

EXPERIENCE

Visiting Scholar **2021.8 - 2022.5**

UC Berkeley | *Center of New Music and Audio Technology*

- Principal Advisor: Carmine Cella
-

RESIDENCY

Oracle Egg **2025.1**

Broiler Experimental Performance Series | *Los Angeles*

- *Prosthesis*, participatory experimental live music performance, as half of the āññā duo.

COMMISSION

Duo Lingua **2024.7**

Composition | *Bogotá, Colombia*

- *me hiciste falta*, for live electronics, two musicians and four ham radios

APPEARANCE

Performance

- *Prosthesis*, Oracle Egg, Los Angeles (2025)
- *Cycle to Learn*, Future Stage, NYC (2024)
- *me hiciste falta*, libres en el sonido, Duo Lingua, Bogotá, Colombia (2024)
- *Learning to move, learning to play, learning to animate*, Qualcomm Institute, IDEA performance series, San Diego, CA (2024)
- *Tea for Three, Seedback*, UC San Diego, synth ensemble, San Diego, CA (2024)
- *Leave No Trace, for 6 channel electronics and a hiker*, Qualcomm Institute, IDEA performance series, San Diego, CA (2023)

Exhibition

- Plexus Projects, GUI/GOOEY, *Learning to move, learning to play, learning to animate*, Brooklyn (2024)

RESEARCH PROJECT

Joint time-frequency spectral modeling of music timbre **2023.1 - Present**

- With the awareness of the drawback of the Fast Fourier Transform and the traditional spectral modeling schemes, this project aims for a semantically describable and concisely controllable spectral model that considers both temporal and spectral characters. Moreover, exempting the separation step of amplitude and phase spectrograms and taking the implementation of FFT into account, this scheme goals for dealing with classic problems in spectral synthesis like phase reconstruction, sinusoidal leakage, and so forth.

Computer-assisted auto-orchestration and texture generation **2021.8 - Present**

- Proposed a workflow for generating musically reasonable multi-track scores for orchestra given the constraints of configuration, timbre morphology, and measures of textural complexity. Currently modeling a deep learning framework based on generative neural networks and realizing the auto transformation from parameter space of conditions to symbolic space of scores.

Timbre analysis and synthesis **2020.5 - 2021.6**

- Designed a framework for the extraction and modification of harmonics morphological features for musical timbre. Practiced experiments to verify the analytic power of the the model, including musical instrument recognition and timbre descriptor mapping. Developed a synthesis method that allows sound reconstruction, design, and morphing based on understandable features. Implemented a GUI with PyQT that integrated all the functions and allowed future exploration of the model.

PUBLICATION

Recording

- *me hiciste falta*, Duo Lingua, Bogotana Record, Colombia (2024)

Article

- Zehao Wang, Han Zhang, Yifan Guo. *ModPhy: System Design for Real-time Modular Sound Synthesis with Physically-Modeled Objects*, in Proceedings of the International Computer Music Conference (ICMC), 2023.

Presentation

- Han Zhang, Mingyong Cheng, Sophia Sun, Lindsey Gu. *Learning to Move, Learning to Play, Learning to Animate: a Multimedia Exploration of the More-than-human Intelligence*, NeurIPS Creative AI Track, Vancouver, Canada, 2024

TEACHING

Instructor

- X-Institute, Principal Instructor in Music Technology Program, Shenzhen, China, 2024 - Present

Teaching Assistance

- UC San Diego, Department of Music: MUS1C Music Theory (2023), MUS7 Music in Time (2024), MUS9 Orchestra (2023), MUS15 Hip Hop Music (2024, MUS173 Production (2023), MUS17 Popular Music, MUS174A Studio Technique (2023, 2024)
- University of California, COSMOS Program, music technology cluster (2023, 2024)

SERVICE

Studio Tech Team **2023.9 - Present**
Music Department, UC San Diego

NGO Board Member **2022.9 - Present**
Gifted Children Alumni Association, Austin, Texas

SKILLS

●●● DAWs (Ableton Live, Pro Tools, Logic Pro, Cubase), Programming Languages (C, C++, Python, Matlab, Latex), Music softwares (Max MSP, Pd, Sibelius), Video Editing (Pr, Ae, Lr, Final Cut Pro), Microcontrollers (Arduino, ESP32, STM32), Latex

●●○ Amateur Radio operation

●○○ Programming Languages (SQLs, SAS, CSS, JavaScript)

Languages

- Mandarin (Native)
- English (Full professional proficiency)
- Spanish, Japanese (Basic)