

Zhenghao Wang (Max)

王正浩

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EDUCATION

Johns Hopkins University Peabody Institute — *Bachelor in Computer Music*

Baltimore, US, [2022 – 2026]

Advisor: Ted Moore, Bryan Jacobs, Sam Pluta, McGregor Boyle

CREATIVE INTERESTS

Interactive music systems: sensor-based musical interfaces, Real-time gesture and signal mapping for musical control

Musical Robotics: robotic performance, 3D modeling, Arduino

Composition for media: electroacoustic composition: sound design, modern arranging, film scoring

RESEARCH PROJECTS

Investigated: The development of interactive robotic and sensor-based musical systems integrating acoustics, mechatronics, machine vision, and real-time performance technology.

Tools/technologies: Arduino, Python, Max/MSP, SuperCollider, MediaPipe, CAD modeling, 3D printing, hardware prototyping.

OBOT — Robotic Oboe Performance System

- CAD modeling and 3D printing
- Arduino firmware

- solenoid and servo articulation
- excerpts such as *Swan Lake*.
- Read the paper: <https://zhenghaowang.art/obot>

RFDT — Real-Time Facial Detection Talkbox

- Facial-landmark mapping to synthesis parameters
- Python and MediaPipe low-latency pipeline
- FM/formant gesture mappings
- Stability and real-time optimization
- Read the paper: <https://zhenghaowang.art/rfdt>

Self-Interactive Piano — Disklavier Based Performance System

- Interactive response engine for Yamaha Disklavier
- Bidirectional mappings for MIDI velocity and keys
- Algorithmic accompaniment in SuperCollider
- Video demo: <https://zhenghaowang.art/piano>

Gyrolimba

- Motion controlled kalimba interface
- Motion sensor based gesture mapping
- Embedded control and vibration feedback
- Video demo: <https://zhenghaowang.art/gyrolimba>

MUSIC COMPOSITIONS / PRODUCTIONS

BIFSC Film Scoring

- A six minute midi composition for Berlin International Film Scoring Competition.

Avenue to August

- A traditional jazz big band composition
- Recording version were Recorded by Wedo big band in Guangzhou.
- Producing version were made using FL studio.
- Written full score

Little JB

- Adapted from "Jingle Bells."
- This version features original reharmonization and a solo a cappella arrangement,

- Singer: Zhenghao Wang; Reharmonization: Zhenghao Wang; Arrangement: Zhenghao Wang

Mandarin & Cantonese pop songs arrangement:

- **幸福导论 *Xing Fu Dao Lun***: A mandarin pop song composed and written by Zitao Liu; arranged and produced by Zhenghao Wang.
- **幸福漂流 *Xing Fu Piao Liu***: A mandarin pop song composed and written by Zitao Liu; arranged and produced by Zhenghao Wang.
- **晴空幻想 *Qing Kong Huan Xiang***: A cantonese pop song composed and written by Zitao Liu; arranged and produced by Zhenghao Wang.
- **冷热 *Leng Re***: A mandarin pop song composed and written by Jim Li; arranged and produced by Zhenghao Wang.

Listen to Zhenghao Wang's music: <https://zhenghaowang.art/#music>

PERFORMANCE

Jazz Piano:

Footprints (Jazz Trio) — Piano: Zhenghao Wang; Bass: Chuliang Zhu; Drum: Haoxing Li

Song for my father — Piano: Zhenghao Wang; Bass: Chuliang Zhu; Drum: Haoxing Li

Anthropology — Piano: Zhenghao Wang; Bass: Chuliang Zhu; Drum: Haoxing Li

Watch Zhenghao Wang's performance: <https://zhenghaowang.art/#performances>

Oboe Repertoire (selected):

Pasculli – I Vespri Siciliani Grand Concerto

Pasculli – La Favorita Concert Fantasy

Pasculli – Traviata Fantasia

J.S. Bach – Partita in A minor, BWV 1013

Skalkottas – Concertino for Oboe and Piano (1939)

Ferling – 48 Études, Op. 31

Mille – 20 Studies for Oboe

TECHNICAL SKILLS

Programming: Python, Arduino, Max/MSP, SuperCollider, JavaScript, [p5.js](#), MediaPipe, JUCE

DAWs: FL Studio, Logic Pro, Ableton Live, Reaper.

CAD / Fabrication: Fusion 360 (CAD modeling), 3D printing (Bambu Lab A1/X1C), Tinkercad

Instruments: Jazz Piano, Classical piano, Oboe.

Other: notation software (MuseScore, Sibelius), video editing, film scoring workflows, modern arranging & mixing

REFERENCES

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