HUAN ZHANG

+44 07536960889 ◇ huan.zhang@qmul.ac.uk ◇ www.huanz.space

EDUCATION

Queen Mary University of London, London, UK September 2021 - Present
Ph.D student in Artificial Intelligence and Music, Center for Digital Music
Research Topic: *Computational modelling of expressive piano performance.*

Carnegie Mellon University, Pittsburgh, PA September 2017 - May 2021
Bachelor of Science in Music and Technology, minor in Computer Science, GPA: 3.7/4.0

RESEARCH AND PROJECTS

H. Zhang, E. Karystinaios, S. Dixon, G. Widmer, C. E. Cancino-Chacón. "Symbolic Music Representations for Classification Tasks: A Systematic Evaluation", in proceeding of *24th International Society for Music Information Retrieval Conference (ISMIR 2023).*

H. Zhang, S. Dixon. "Disentangling the Horowitz Factor: Learning Content and Style from Expressive Piano Performance", in proceeding of *International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2023.*

H. Zhang, J. Tang, S. Rafee, G. Wiggins, G. Fazekas, S. Dixon. "ATEPP: A Dataset of Automatically Transcribed Expressive Piano Performance", in proceeding of *23rd International Society for Music Information Retrieval Conference (ISMIR 2022).*

H. Zhang, Y. Jiang, Y. Jiang, P. Hu. "Learn By Referencing: Towards Deep Metric Learning for Singing Assessment", in proceeding of *22nd International Society for Music Information Retrieval Conference (ISMIR 2021)*

S. Dai, **H. Zhang**, R. Dannenberg. "Automatic Analysis and Influence of Hierarchical Structure on Melody, Rhythm and Harmony in Popular Music", in proceeding of *Joint Conference on AI Music Creativity (CSMC-MuMe 2020)*

R. Dannenberg, **H. Zhang**, A. Meena, A. Joshi, A. Patel, and J. Sastre. "Collaborative Music Creation and Performance with Soundcool Online", in proceeding of *6th Web Audio Conference (WAC 2020)*

PROFESSIONAL EXPERIENCE

Research Visit Jan 2023 - May 2023
Institut für Computational Perception, Vienna, Austria
- Collaboratively developed the symbolic music processing pacakge `Partitura`, incremented the features in piano performance codec and expression analysis, with ongoing collaboration in large-scale analysis of performance expressions.
- Work in investigations about representation of symbolic music data, published in ISMIR 2023.

Music Research and Development Intern Dec 2020 - May 2021
Tencent Music Entertainment, Shenzhen, China
- Working under WeSing Audio and Music Lab (now LYRA Lab), investigated the task of Singing Assessment with triplet model architecture, publication in ISMIR 2021.
- Trained audio auto-tagging model to analyze short video scene on the platform.
- Conducted a survey of music education mobile applications in China and their technology solutions.

Music Research and Development Intern June 2020 - Oct 2020
Kuaishou Technology, Beijing, China
- Tackled the task of automatic melody harmonization by proposing a seq2seq approach with transformer model.
- Completed the entire life-cycle including analyzing and processing data from Wikifonia, Hooktheory and POP909 symbolic datasets, tuning and training the transformer, to testing and inferencing.
- Proposed a melody harmonization evaluation scheme that's used to evaluate the quality of generated chord.

HONORS/AWARDS

ISMIR 2023 Diversity and Inclusion Grant	July 2023
UKRI PhD studentships in Artificial Intelligence and Music (AIM) receiver	Sept 2021
CMU Summer Internship Experience Fund (SIEF) Receiver	April 2019
Ranked top 1000 in Putnam Mathematical Competition	Dec 2017
Carnegie Mellon University Dean's List	2017-2019

INVOLVEMENT AND LEADERSHIP

Paper reviewing

- Reviewed conference and journal papers of ISMIR 2023, ICASSP 2023, IEEE/ACM Transactions on Audio Speech and Language Processing, EURASIP Journal on Audio, Speech, and Music Processing

WiMIR Mentor Mar-Aug 2022

- Hold one-to-one meeting with undergraduate student signed up to Women in Music Information Retrieva (WiMIR) initiative, providing them with insights in research scene, application and academia life.

CMU Laptop Orchestra Jan 2019 - May 2019

Collaborative Project

- A project lead by professor Roger Dannenberg and implemented by music technology students, it presents a Multi-thread, network-based real time laptop music-generation performance. I am contributing as one of the laptop instrumentalist with saxophone and piano, with jazz-style composition algorithm written in Serpent and synchronizing with the conductor over the network. Performance Video (Youtube)

Music Involvement

- Classical Piano Performance: In this performance video I played Bach's Well Tempered Clavier in b minor, book 1, and the Jeux D'eau by Maurice Ravel. Performance Video (Youtube) (Bilibili)
- With full musicianship training from solfege, counterpoint to orchestration, I was also able provide music theory tutorials for my colleges and peers.

SKILLS AND COURSEWORKS

QMECS7006P - Music Informatics	Spring 2022
QMECS7013P - Deep Learning for Audio and Music	Spring 2022
QMECS707 - Digital Signal Processing	Fall 2021
QMECS741P - Music Perception	Fall 2021
CMU10605 - Machine Learning with Large Datasets	Fall 2021
CMU15780 - Graduate Artificial Intelligence	Spring 2021
CMU10701 - Introduction to Machine Learning	Spring 2020
CMU15210 - Parallel and Sequential Data Structures and Algorithms	Fall 2019
CMU15213 - Introduction to Computer Systems	Fall 2019
CMU15323 - Computer Music Systems and Information Processing	Spring 2019
CMU11411 - Natural Language Processing	Fall 2019