JUNHAO WANG

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EDUCATION

Master of Arts, Music Technology   September 2020 - Present
McGill University, Montreal, QC, Canada

- Distributed Digital Music Archives & Libraries Lab (DDMAL)
- Centre for Interdisciplinary Research in Music Media and Technology (CIRMMT)
- GPA: 4.0 / 4.0

Bachelor of Engineering, Digital Media Technology   September 2016 - July 2020
Communication University of China, Beijing, China

- Key Laboratory of Media Audio and Video, Ministry of Education
- GPA: 3.46 / 4.0
- Outstanding Bachelor Thesis

PROJECT HIGHLIGHTS

HPCP Key Finder

- Spectral analysis for extracting Harmonic Pitch Class Profiles (HPCP) from polyphonic audio signals
- Key estimation based on correlation with key profile vectors

Impulsive Noise Remover

- Audio restoration for gramophone recordings
- Impulsive noise (clicks) detection and removal based on auto-regressive modelling

Guitar Plucking Technique Classifier

- Various spectral and timbral features extracted from short music clips
- Support Vector Machine classifier which detects the string and plucking style used in single-note guitar recordings

Electric Guitar Synth

- Plucked string sound synthesis based on extended Karplus-Strong algorithm
- Various signal processing techniques used for emulating glissandi, tone control, distortion, and feedback effect

EXPERIENCE

Research Assistant   September 2020 - Present
Distributed Digital Music Archives & Libraries Lab (DDMAL)   *Montreal, QC, Canada*

- Django web development for CantusDB
- Experience with Compute Canada cloud infrastructures

Audio Research Intern   May 2021 - September 2021
Ubenwa Intelligence Solutions   *Montreal, QC, Canada*

- Develop signal processing routines for analyzing infant cry sounds
- Develop rule-based system for detecting five acoustic signs of pathology

Local Coordinator   October 2020
The 21st International Society for Music Information Retrieval (ISMIR) Conference   *Montreal, QC, Canada*

- Host and support conference events

- Coordinate volunteers and session organizers
- Support and manage the virtual conference platforms

Research Assistant   May 2019 - July 2020
Key Laboratory of Media Audio and Video, Ministry of Education   *Beijing, China*

- Develop algorithms for automatic music generation and musical style translation
- Analyze and evaluate state-of-the-art deep learning models for music and audio information retrieval tasks

Student Participant   July 2019 - August 2019
University of British Columbia   *Vancouver, BC, Canada*

- 4-week intensive program on acoustics and signal processing tasks offered by Electrical and Computer Engineering
- Final grades: 95 / 100 (A+)

RESEARCH INTEREST

Audio Information Retrieval

- Extract various audio features through spectral analysis of audio signal
- Utilize machine learning and deep learning models to recognize audio patterns and clusters
- Specific application in sound event detection and music transcription

SKILLS

Programming Language: Python, Matlab
Machine Learning: Python, Matlab, Tensorflow
Web Development: HTML, CSS, JavaScript, Django
Language: English-IELTS 8.0, Chinese Mandarin-native, French-un peu

HONORS

- Graduate Internship Award   *McGill University, 2021*
- Outstanding Bachelor Research   *Communication University of China, 2020*
- Academic Excellence Scholarships   *Communication University of China, 2017-2019*

Last updated: 2021-09-04