YUSONG WU

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EDUCATION

Beijing University of Posts and Telecommunications Beijing, China
BE in Automation 09/2016 - 06/2020 (expected)

- GPA: 3.41/4; Rank: Top 15%
- English Proficiency: GRE: 158(V)+169(Q)+3.0, TOEFL: 29(L)+29(R)+25(S)+23(W)= 106

PUBLICATIONS & MANUSCRIPTS

- **Yusong Wu**, Shengchen Li, Chenzhu Yu, Heng Lu, Chao Weng, Dong Yu: *Synthesising Expressiveness in Peking Opera via Duration Informed Attention Network*. arXiv:1912.12010 [cs.CL]
- Liqiang Zhang, Chengzhu Yu, Heng Lu, Chao Weng, **Yusong Wu**, Xiang Xie, Zijin Li, Dong Yu: *Learning Singing From Speech*. arXiv:1912.10128 [cs.SD]
- **Yusong Wu**, Shengchen Li: *Guqin Dataset: A symbolic music dataset of Chinese Guqin collection*. **Accepted** by Proceedings of China Conference on Sound and Music Technology (CSMT 2019)
- **Yusong Wu**, Shengchen Li: *Distinguishing Chinese Guqin and Western Baroque pieces based on statistical model analysis of melodies*. **Accepted** by International Symposium on Computer Music Multidisciplinary Research (CMMR 2019)

RESEARCH EXPERIENCE

Singing Synthesis System 08/2019 - now
Research Intern, Tencent AI Lab.

- Adapted from DurIAN system to build a singing synthesis system which generating Mel-spectrogram from musical score input, and generating audio using WaveRNN.
- ***Expressive Singing Performance***: Experimented synthesizing Peking Opera singing with expressiveness in singing by inputting musical note, with the dynamics in Peking opera singing learned from the spectrogram.
- ***Learning Singing from Speech***: Experimented generating singing with the voice timbre learned from speech by jointly training singing and fine-tuning speech synthesis using fundamental frequency input.

Statistical Approach to Distinguishing Different Music Genre 01/2019 - 05/2019
Advisor: Shengchen Li, Embedded Artificial Intelligence Research Group

- Proposed statistical approach, especially melodic internal histogram and Markov chain to differentiate music genre, by extracting feature distribution and measure similarity using Kullback–Leibler divergence.
- Experimented the proposed method on Western Baroque and Chinese Guqin pieces, conducted significance test in the results and demonstrated the effectiveness of the method.

Symbolic Music Dataset Compilation 01/2019 - 07/2019
Advisor: Shengchen Li, Embedded Artificial Intelligence Research Group

- Collected a comprehensive set of symbolic music dataset containing 71 Chinese Guqin pieces that could be used in computational musicology and music arrangement.

Machine Learning Based Music Arrangement 05/2017 - 05/2018

- Trained a Long Short-Term Memory (LSTM) model to automatically generate music based on user input.

MUSIC EXPERIENCE

- Semi-professional percussion player, started playing at age 6, tutored by top Percussion musician Xibin Liu.
- Over 10 years of experience in orchestra, wind symphony and marching band, proficient in Timpani.
- Played with famous Chinese pop singer Jie Zhang in 2016 on the show “Singer”.

SELECTED AWARD

- Gold Price in Beijing University Orchestra Performance. 2018
- 2rd Prize of Academic Scholarship (Top 15%). 2019

ONLINE COURSES TAKEN

- Deep Learning (Deeplearning.ai): 98/100 | Machine Learning (Stanford University): 95/100