YUSONG WU

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EDUCATION

Beijing University of Posts and Telecommunications Beijing, China

BE in Automation 09/2016 – 06/2020 (expected)

- GPA: 3.43/4; Rank: Top 15%
- English Proficiency: GRE (158+169+3.0), TOEFL: (29+29+25+23 = 106)
- Personal Page: https://lukewys.github.io/

SKILLS

C, C++, Python, Tensorflow, MATLAB; Deep Learning

PUBLICATIONS

- *Distinguishing Chinese Guqin and Western Baroque pieces based on statistical model analysis of melodies*. **Yusong Wu**, Shengchen Li. International Symposium on Computer Music Multidisciplinary Research (CMMR 2019)
- *Guqin Dataset: a symbolic music dataset*. **Yusong Wu**, Shengchen Li. Proceedings of China Conference on Sound and Music Technology (CSMT 2019)
- *Highly Expressive Peking Opera Synthesis with Durian System.* **Yusong Wu**, Shengchen Li, Chenzhu Yu, Heng Lu, Chao Weng, Dong Yu. Proceedings of the 20th International Society for Music Information Retrieval Conference (ISMIR 2019, Late-breaking/demo session)

ACADEMIC AND RESEARCH EXPERIENCE

Peking Opera Singing Synthesis 08/2019- now

Research Intern, Tencent AI Lab.

- Aimed to generate Peking Opera singing audio given arbitrary music score.
- Utilizing DurIAN system to output Mel-spectrogram by taking input phoneme and note sequence, and generated audio sequence using WaveRNN.
- Enabled the system to synthesize high-quality Peking Opera singing with expressiveness in singing and generate singing with Peking Opera style given pop song score 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.
- 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 that could be used in computational musicology and music arrangement.
- Employed the dataset in distinguishing Western Baroque and Chinese Guqin, and proved the validity of the dataset.

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
- Investigated in hyperparameter tuning and model evaluation, and tested model on simple melodies such as *Twinkle, Twinkle Little Star* and *For Elise*.

ONLINE COURSES TAKEN

- Deep Learning (Deeplearning.ai): 98/100
- Machine Learning (Stanford University): 95/100
- Game Theory I+II (Stanford University): 100/100
- Algorithm Part1 (Stanford University): 100/100