YUSONG WU

Beijing University of Posts and Telecommunications, Beijing, China
+86 -13911356479 | wuyusongwys@gmail.com

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(V)+169(Q)+3.0), TOEFL: (29(L)+29(R)+25(S)+23(W)= 106)
- Personal Page: https://lukewys.github.io/

SKILLS

Programming: C, C++, Python, Tensorflow, MATLAB; Deep Learning; Music: Orchestral Percussion playing.

PUBLICATIONS

- *Synthesising Expressiveness in Peking Opera via Duration Informed Attention Network.* **Yusong Wu**, Shengchen Li, Chenzhu Yu, Heng Lu, Chao Weng, Dong Yu. Submitted to 45th International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2020), under review.
- *Learning Singing From Speech.* Liqiang Zhang, Chengzhu Yu, Heng Lu, Chao Weng, **Yusong Wu**, Xiang Xie, Zijin Li, Dong Yu. Submitted to ICASSP 2020, under review.
- *Guqin Dataset: A symbolic music dataset of Chinese Guqin collection*. **Yusong Wu**, Shengchen Li. Proceedings of China Conference on Sound and Music Technology (CSMT 2019)
- *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)

ACADEMIC AND RESEARCH EXPERIENCE

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

- Adapting from DurIAN system to build a synthesis singing voice by outputting Mel-spectrogram using phoneme and musical input, and generating audio using WaveRNN.
- Expressive Singing Performance: Synthesis 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: Generate 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 that could be used in computational musicology and music arrangement. Contribute to the inherit of Chinese Guqin music, an ancient and beautiful art form.

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