

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)
- Github: <https://github.com/lukewys/>

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 Synthesis with DurIAN framework

08/2019- now

Software Engineer Intern, Tencent AI Lab.

- Aim to generate Peking Opera singing audio given arbitrary music score.
- Based on DurIAN (DurIAN Informed Attention Network) system to output mel-spectrogram by taking input features, and generated audio sequence using WaveRNN with the generated mel-spectrogram.
- Currently the system could synthesize high quality Peking Opera singing, and could 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.

Recognition and Deactivation of EAS Label for Self-Service Supermarkets

05/2018- 05/2019

- Reviewed the mechanism of Automatic Degaussing Circuit (ADC), and designed, prototyped the corresponding transmission circuit.
- Tested the prototype in self-service supermarkets, and analyzed the averaged time spent in the supermarkets of the testers to prove the feasibility of the design.

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 (Stanford University): 100/100
- Algorithm (Stanford University): 100/100