TING-LE LI

(+86)16675164723 ⋄ tinglok.lai@gmail.com
Homepage: https://tinglok.netlify.com

EDUCATION

Tianjin Polytechnic University **Tianjin, China**
BEng in Computer Science (Honors Program of Artificial Intelligence) *Sep. 2016 - Present*
Overall GPA: 3.71/4.00 (Top 5%) Major GPA: 3.93/4.00

HONORS & AWARDS

Three years of Dean's List, *2016 - 2019*
Three years of Merit Scholarship, *2016 - 2019*
Third Prize of the "Lan-Qiao" Cup National Selection Competition, *2016 - 2017*
First Prize of the China Students Service Outsourcing Innovation and Entrepreneurship Competition (7.9% of all), *2018 - 2019*

MANUSCRIPT IN PREPARATION

[1] **Tingle Li**, Jiawei Chen, Haowen Hou, and Ming Li. " Sams-Net: A Sliced Attention-based Neural Network for Music Source Separation." Interspeech 2020. (to be submitted)

[2] Qingjian Lin, **Tingle Li**, Lin Yang, Junjie Wang, and Ming Li. " Optimal Mapping Loss: A Faster Loss for End-to-End Speaker Diarization." Speaker Odyssey 2020. (under review)

TECHNICAL STRENGTHS

Programing Language	Python, Java, C++, Shell
Programing Framework	PyTorch, TensorFlow, Keras and a little Kaldi
GitHub	https://github.com/Tinglok

CORE COURSES

Machine Learning (97), Mathematical Foundation of Artificial Intelligence (98), Data Mining (91), Computer Vision (91), Numerical Analysis (94), Applied Statistics (91), Linear Algebra (93), Probability and Statistics (93), Advanced Mathematics (94), Data Structure (94), Algorithm Design and Analysis (93), High-level Programming Language (95)

RESEARCH INTERESTS

Source Separation, Speech Enhancement, Speaker Recognition, Music Information Retrieval

WORK EXPERIENCES

Speech and Multimodal Intelligent Information Processing (SMIIP) Lab **Suzhou**
Research Intern *Jul. 2019 - Present*

- Advised by Prof. Ming Li, I do some research on the utterance-level speaker and language recognition based on the deep neural network;
- Trying to do some research about speech front-end processing, including but not limiting to separation, enhancement and reverberation.

Samsung Research Institute China (SRC-B) **Beijing**
Research Intern *Jan. 2020 - Mar. 2020*

- Working with researchers from Samsung Speech Lab, I built a noise reduction system, which prepared to use as the front-end of intelligent devices;
- First we input the speaker utterance to get the speaker embedding, then we can input it together with the mixed utterance to the noise reduction system. With this system, we can get the clean utterance under the surrounding noise like songs, accompaniments, and other speakers' voice.

Tianjin Key Laboratory of Autonomous Intelligence Technology and Systems **Tianjin**
Student Research Assistant *Sep. 2018 - Jun. 2019*

- Advised by Prof. Rize Jin and Dr. Weitao Yuan, I mastered Deep Learning based method for Audio Processing, especially in Music Information Retrieval;
- Learning some basic knowledge about signal processing, such as Short-time Fourier transform (STFT), GMM-HMM, Fbank and MFCC, etc.

RESEARCH PROJECTS

Target Speaker Extraction for Overlap Detection **Suzhou**
Research Assistant *Oct. 2019 - Present*

- Trying to study a system to separate the target speaker's audio from the mixed audio, that is, given two inputs into the system: the embedding vector from the target speaker, and the spectrogram of the mixed audio, then output the separated audio from the target speaker;
- Previous research input the target speaker embedding to the LSTM layer together with the mixed spectrogram, but it is inefficient due to the time property of the LSTM, so I try to improve it.

A Sliced Attention-based Neural Network for Music Source Separation **Suzhou**
Research Assistant *Sep. 2019 - Present*

- We proposed a Sliced Attention-based neural network (Sams-Net) at the spectrogram domain for music source separation task, which enabled feature interactions from the magnitude spectrogram contribute differently to separation;
- Compared with the baselines, the evaluation metric (SDR) of our model was greatly improved although it contained fewer parameters. It is expected to be submitted to Interspeech 2020 (as the first author) and now can be seen in arXiv.

Singing Voice Separation for Singer Verification **Shanghai**
Research Assistant *Sep. 2019 - Oct. 2019*

- We used the network structure we proposed to separate vocals of songs, which was used for Speaker Recognition system, so that when different people sing the same song at the same time, the number of singers can be roughly identified (about 99.1% Accuracy);
- This technique has been adopted by Tencent Inc., which was used as the third party duplicate checking technique for Guinness Records of the CCTV National Day Celebration Program, and news can be seen in here.

TEACHING EXPERIENCE

- Introduction to Machine Learning (TA) [Tutorial][Assignment] *Fall 2019*