

TING-LE LI

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Homepage: <https://tinglok.netlify.com>

EDUCATION

Tianjin Polytechnic University

BEng in Computer Science (Honors Program of Artificial Intelligence)

GPA: 3.71/4.00 (Top 5% of the major)

Tianjin, China

Sep. 2016 - Present

HONORS & AWARDS

Three years of Dean's List, *2016 - 2019*

Three years of Merit Scholarship, *2016 - 2019*

Third Prize of the Blue Bridge 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."

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,

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 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 very inefficient due to the time dependence of the LSTM, so I try to modify it with a self-attention layer.

A Sliced Attention-based Neural Network for Music Source Separation

Suzhou

Research Assistant

Sep. 2019 - Present

- We propose a Sliced Attention-based neural network (Sams-Net) at the spectrogram domain for music source separation task, which enables feature interactions from the magnitude spectrogram contribute differently to the separation;
- Compared with the baselines, the evaluation metric of our model is greatly improved although it contains 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