TING-LE LI

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EDUCATION

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

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." Interspeech 2020. (under review)

[2] Qingjian Lin, **Tingle Li**, Lin Yang, Junjie Wang, 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.

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*