Tingle Li

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Education Background

Tiangong University (Double-First-Class Discipline Construction University)	Tianjin
BSc in Computer Science (Laboratory Class of Artificial Intelligence)	Sep. 2016 - Present

English   TOEFL: TBC   CET-6: 439

GPA: 3.71 / 4.0 (Top 10% of the major)

Honors & Awards

Three years Merit Scholarship, 2016 – 2019

Third Prize of the Blue Bridge Cup Team Competition National Selection Competition, 2016 - 2017

First Prize of the School-level Innovation and Entrepreneurship Challenge Competition, 2016 - 2017

First Prize of the China Students Service Outsourcing Innovation and Entrepreneurship Competition, 2018 – 2019

Publications

[1] Tingle Li, Jiawei Chen, Haowen Hou and Ming Li. "TF-Attention-Net: An End To End Neural Network For Singing Voice Separation." *arXiv preprint arXiv:1909.05746* (2019).

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

Front-end of Speech Processing, One-shot Voice Conversion, Music Information Retrieval

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Research and Project Experience

Speech and Multimodal Intelligent Information Processing Lab	**Kunshan**
Research Intern	Jul. 2019 - Present

- Research on the utterance-level speaker and language recognition based on deep neural network.
- Trying to provide front-end technologies like noise reduction, speech separation and speech enhancement for speech recognition, voiceprint recognition and speaker diarization tasks.

Singing Voice Separation for Voiceprint Recognition	**Kunshan**
Research Assistant	Sep. 2019 - Present

- We used the network structure we proposed to separate vocals and accompaniment in music 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 95% Accuracy);
- This technology has been adopted by Tencent Inc., which will be used for CCTV National Day Celebration Program and the samples can be seen in here and the news can be seen in here.

TF-Attention-Net: An End-to-End Neural Network for Singing Voice Separation	**Tianjin**
Research Assistant	Jan. 2019 - Present

- Work with researcher from Tencent Inc., we proposed an end-to-end neural network based on Attention Mechanism, which focuses on singing voice separation task. It works on spectrogram domain, which enable to separate songs into accompaniment and vocals.
- Compared with the state-of-the-art, the Med. and Mean of the SDR metric of our model are greatly improved while the number of model parameters is greatly reduced. It have been submitted to ICASSP 2020 (as the first author) and now can be seen in arXiv.

Tianjin Key Laboratory of Autonomous Intelligence Technology and Systems   **Tianjin**

Research Assistant   Sep. 2018 - Jun. 2019

- Attention mechanism is generally used for machine translation, but I try to modify the "Crop and Concat" part between the encoder and decoder in the U-Net with Attention Mechanism for singing voice separation task;
- According to the result, I found it have a slight improvement compared with the Wave-U-Net (state-of-the-art), which gives us an in-depth interest in the effects of attention mechanisms on the singing voice separation task.

China Students Service Outsourcing Innovation and Entrepreneurship Competition   **Wuxi**

Team Member   Nov. 2018 - May. 2019

- We develop a project called "Deep-Learning-Based Psychological Measurement System for College Students", and our team won the national first prize (less than 8%) in Baidu Inc. Proposition Competition;
- We built the system using TensorFlow, which use VGG-19 to identify facial expression and building chatbot system using LSTM and Self-Attention Mechanism, so that the pre-trained model was finally deployed into our web system.

College Students Innovation and Entrepreneurship Project   **Tianjin**

Team Member   Apr. 2018 - Mar. 2019

- Our team developed a recommendation system based on user requirements using OCR intelligent identification technology as well as collaborative filtering algorithm and content-based recommendation algorithm and promoted it in the form of App;
- The system can classify document resources while filtering repetitive documents, and recommend students for the materials required according to their characteristics.

Programming Language and Tools

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