Li Li

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Research Interests

Audio signal processing, machine learning and speech analysis

Education

Current	Ph.D. student in Department of Computer Science, Graduate School of Systems and Information Engineering, University of Tsukuba, Japan.
Mar. 2018	M.S. degree in Engineering, Department of Computer Science, Graduate School of Systems and Information Engineering, University of Tsukuba, Japan. Topic: Monaural speech enhancement with non-negative matrix factorization Advisors: Prof. Shoji Makino and Dr. Hirokazu Kameoka
Mar. 2016	Research Student in University of Tokyo, Japan.
July 2014	B.E. degree in Engineering, Department of Information Management and Engineering, Shanghai University of Finance and Economics, China.

Research & Work Experiences

April 2018-Current	Research fellow (DC1) of Japan Society of Promotion of Science (JSPS), Japan.
April 2016-Current	Research Intern in NTT Communication Science Laboratories, NTT Corporation, Japan.
July 2018-Aug. 2018	Research student in Toda Laboratory, University of Nagoya, Japan. Topic: Singing voice modeling for singing style control

Awards

Nov. 2018	The 2nd IEEE Signal Processing Society Tokyo Joint Chapter Student Award.
Mar. 2018	Chair Award of the Department of Computer Science, Graduate School of Systems and Information Engineering, University of Tsukuba.
Sep. 2016	The 13th Best Student Presentation Award from The Acoustical Society of Japan (ASJ).

Fundings

2018-2021	Grant-in-Aid for JSPS Fellows, Japan Society of the Promotion of Science (JSPS).
Aug. 2017	Travel Support for Overseas Dispatch of Graduate Students, University of Tsukuba.
Mar. 2017	Travel Support for Overseas Dispatch of Graduate Students, University of Tsukuba.

Languages

Chinese (native), English (fluent), Japanese (fluent)

Computer Skills

Programming: MATLAB, python, C

Publications

Journal papers

[1] H. Kameoka, T. Higuchi, M. Tanaka, and **L. Li**, "Non-negative matrix factorization with basis clustering using cepstral distance regularization," *IEEE/ACM Transactions on Audio, Speech and Language Processing (TASLP)*, vol. 26, no. 6, pp. 1025-1036, Jun. 2018.

Peer-reviewed conference papers

[1] **L. Li** and H. Kameoka, "Deep clustering with gated convolutional networks," in Proc. *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP2018)*, pp. 16-20, Calgary, April 2018.

[2] **L. Li**, H. Kameoka, and S. Makino, "Mel-generalized cepstral regularization for discriminative non-negative matrix factorization," in Proc. *The 27th IEEE International Workshop on Machine Learning for Signal Processing (MLSP2017)*, Tokyo, Sep. 2017.

[3] **L. Li**, H. Kameoka, T. Toda, and S. Makino, "Speech enhancement using non-negative spectrogram models with mel-generalized cepstral regularization," in Proc. *The 18th Annual Conference of the International Speech Communication Association (Interspeech2017)*, pp. 1998-2002, Stockholm, Aug. 2017.

[4] **L. Li**, H. Kameoka, and S. Makino, "Discriminative non-negative matrix factorization with majorization-minimization," in Proc. *The 5th Joint Workshop on Hands-free Speech Communication and Microphone Arrays (HSCMA2017)*, pp. 141-145, San Francisco, Mar. 2017.

[5] **L. Li**, H. Kameoka, T. Higuchi, and H. Saruwatari, "Semi-supervised joint enhancement of spectral and cepstral sequences of noisy speech," in Proc. *The 17th Annual Conference of the International Speech Communication Association (Interspeech2016)*, pp. 3753-3757, San Francisco, Sep. 2016.

Preprints

[1] **Li Li**, Hirokazu Kameoka, and Shoji Makino, "Fast MVAE: Joint separation and classification of mixed sources based on multichannel variational autoencoder with auxiliary classifier," *arXiv:1812.06391 [cs.LG]*, Dec. 2018.

[2] S. Seki, H. Kameoka, **L. Li**, T. Tomoki and K. Takeda, "Generalized multichannel variational autoencoder for underdetermined source separation," *arXiv:1810.00223 [stat.ML]*, Oct. 2018.

[3] H. Kameoka, **L. Li**, S. Inoue and S. Makino, "Semi-blind source separation with multichannel variational autoencoder," *arXiv:1808.00892 [stat.ML]*, Aug. 2018.

Non-reviewed domestic workshop papers

[1] **L. Li**, Y. Koshino, M. Matsumoto, and S. Makino, "Voice activity detection under high levels of noise using gated convolutional neural networks," *IEICE Technical Report*, EA2018-102, vol. 1168 no. 495, pp. 19-24, Mar. 2019 (in Japanese).

[2] **L. Li**, H. Kameoka, and S. Makino, "Fast algorithm for semi-blind source separation using multichannel variational autoencoder with auxiliary source label classifier," *2019 Spring Meeting of Acoustical Society of Japan (ASJ)*, 1-6-10, pp. 201-204, Mar. 2019 (in Japanese).

[3] **L. Li** and H. Kameoka, "Multi-speaker separation using deep clustering with gated CNN," *2018 Spring Meeting of Acoustical Society of Japan (ASJ)*, 1-4-17, pp. 453-456, Mar. 2018 (in Japanese).

[4] **L. Li**, H. Kameoka, and S. Makino, "Auxiliary function approach to discriminative non-negative matrix factorization," *2017 Spring Meeting of Acoustical Society of Japan (ASJ)*, 1-P-4, pp. 519-522, Mar. 2017 (in Japanese).

[5] **L. Li**, H. Kameoka, T. Higuchi, H. Saruwatari, and S. Makino, “Joint enhancement of spectral cand cepstral sequences of noisy speech,” *IEICE Technical Report*, SP2016-32, vol. 116, no. 189, pp. 29-32, Aug. 2016 (in Japanese).

[6] **L. Li**, H. Kameoka, T. Higuchi, and H. Saruwatari, “Speech enhancement based on semi-supervised non-negative matrix factorization with cepstral distance regularization,” *2016 Spring Meeting of Acoustical Society of Japan (ASJ)*, 1-P-27, pp. 721-724, Mar. 2016 (in Japanese).