Li Li

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Research Interests

Audio signal processing, source separation, 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 at NTT Communication Science Laboratories, NTT Corporation, Japan.
July 2019-Oct. 2019	Internship at Applied Sciences Lab, Microsoft Corporation, USA. Topic: Geometrically constrained independent vector analysis for speech enhancement
July 2018-Aug. 2018	Research student at Toda Laboratory, University of Nagoya, Japan. Topic: Singing voice modeling for singing style control

Awards

Dec. 2019	The Best Student Presentation Award, IEICE Electroacoustics Symposium.
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, The Acoustical Society of Japan (ASJ).

Fundings

May. 2019	Grants for Researchers Attending International Conferences, The Telecommunications Advancement Foundation.
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

Publications

Journal papers

[1] S. Seki, H. Kameoka, **L. Li**, T. Toda, and K. Takeda, "Underdetermined Source Separation Based on Generalized Multichannel Variational Autoencoder," *IEEE Access*, vol. 7, No. 1, pp. 168104–168115, Nov. 2019.

[2] H. Kameoka, **L. Li**, S. Inoue, and S. Makino, "Supervised determined source separation with multichannel variational autoencoder," *Neural Computation*, vol. 31, no. 9, pp. 1–24, Sep. 2019.

[3] 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.

Selected peer-reviewed conference papers

[1] **L. Li**, T. Toda, K. Morikawa, K. Kobayashi, and S. Makino, "Improving singing aid system for laryngectomees with statistical voice conversion and VAE-SPACE," in Proc. *20th International Society for Music Information Retrieval Conference (ISMIR2019)*, pp. 784–790, Delft, Nov. 2019.

[2] **L. Li**, K. Yamaoka, Y. Koshino, M. Matsumoto, and S. Makino, "Voice activity detection under high levels of noise using gated convolutional neural networks," in Proc. *International Congress on Acoustics (ICA2019)*, pp. 2862–2869, Aachen, Sep. 2019.

[3] **L. Li**, H. Kameoka, and S. Makino, "Fast MVAE: Joint separation and classification of mixed sources based on multichannel variational autoencoder with auxiliary classifier," in Proc. *2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP2019)*, pp. 546–550, Brighton, May 2019.

[4] **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.

[5] **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.

[6] **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.

[7] **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.

[8] **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.