Curriculum Vitae

Hong Kook Kim

Personal

- Address

School of Electrical Engineering and Computer Science
Gwangju Institute of Science and Technology
123 Cheomdangwagi-ro, Buk-gu, Gwangju 61005, Korea
Tel : +82-62-715-2228, Fax : +82-62-715-2204
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- Research Area

- Speech Processing

Large-vocabulary speech recognition: feature extraction, acoustic model, pronunciation model, lexicon, WFST decoder, DNN
Speech diarization: sound classification, voice activity detection, beamforming, speaker recognition
Acoustic sensing & communication: event detection and classification, noise-robust preprocessing, de-reverberation, device connection using acoustic sensing

- Audio Signal Processing

Immersive audio processing; 3-D audio rendering, personal audio, audio performance measurement
Multi-channel audio processing: audio recording, audio upmixing/downmixing
Speech/Audio coding for broadband convergence networks: ITU-T, MPEG audio
Speech/audio processing for multimedia communications (VoIP, VoWiFi): audio streaming
Bandwidth and quality enhancement of audio
Noise reduction in audio devices: acoustical and mechanical noise reduction

- Multimedia Processing

Audio/video collaboration
Audio information retrieval: fingerprinting and recommendation
Ultrasonic sensing and imaging

Education

1990.03 – 1994.08 : Ph.D. / Electrical Engineering

Korea Advanced Institute of Science and Technology (KAIST), Taejon, Korea

- Ph.D. Thesis

Enhanced cepstral representations and distance measures for speech recognition, Dept. of Electrical Engineering, KAIST, Taejon, Korea, Aug. 1994. (Advisor: Prof. Hwang-Soo Lee)

1988.03 – 1990.02 : M.S. / Electrical Engineering

Korea Advanced Institute of Science and Technology (KAIST), Seoul, Korea

- M.S. Thesis

A statistical approach to automatic phoneme segmentation and a feature map-based phoneme classification algorithm, Dept. of Electrical Engineering, KAIST, Seoul, Korea, Feb. 1990. (Advisor: Prof. Hwang-Soo Lee)

1984.03 – 1988.02 : B.S. / Control and Instrumentation Engineering

Seoul National University Seoul, Korea

Work Experience

2008. 10 −Present: Professor, School of Electrical Engineering and Computer Science, GIST
2003. 08 −2008.09: Associate Professor, School of Electrical Engineering and Computer Science, GIST

Head of Human Media Communication and Processing Laboratory (HuCom): http:// hucom.gist.ac.kr

Graduates:
- 9 Ph.D. Degrees, 23 M.S. Degrees

Class Offered (English Class)
- Introduction to EECS
- Digital Speech Processing
- Digital Signal Processing
- Speech and Audio Coding
- Fundamentals of Speech Recognition

Administration
- 2015.07– Present : Dean, School of Electrical Engineering and Computer Science, GIST
- 2009.03 – 2010.10 : Director, Center for Business Incubator, GIST
- 2010.06 – 2012.09 : Director, Office of International and Public Affairs, GIST
- 2009.08 – 2012.09 : Director, GIST Techno-MBA
- 2011.01 – 2012.09 : Director, GIST Language Center, GIST

2014.07 −2015. 06 City University of New York (CUNY) 160 Convent Avenue, New York, NY 10031
Visiting Professor @ Dept. of Electrical and Computer Engineering

1998.12 −2003. 06 AT&T Labs-Research 180 Park Avenue, Florham Park, NJ 07932
Senior Technical Staff Member

- A robust feature analysis for speech recognition and understanding (with Mazin Rahim and Dilek Hakkani-Tur)
- Acoustic feature and model compensation techniques for robust ASR based on decomposition of speech and noise cepstra (with Rick Rose)
- SPINE (SPeech recognition In Noisy Environment) Project (with Rick Rose) (http://elazar.itd.nrl.navy.mil/spine/spine1/index.html)
- Speech enhancement and speech segmentation for ASR in noisy environment & wireless environment
- A robust front-end for wireless speech recognition (with Rich Cox and Rick Rose)

1998.10 – 1998.11 KAIST Deajon, Korea
Senior Research Scientist

- Spectral weighting function based on interlacing property of LSP

1998.02 −1998.09 MMC Technology, Inc. Seoul, Korea
Senior Engineer

- Development of a speaker-dependent voice dialer for CDMA Cellular Phone (SK Teletech purchased and commercialized it

1990.03 – 1998.02 Samsung Advanced Institute of Technology (SAIT) Kiheung, Korea
Senior Researcher

- 1995 – 1998: Development of a 4 kbit/s high quality speech coder for the ITU-T standardization
- 1996 – 1998: Block cipher and its application to speech coding
- 1994 – 1995: Development of low-bit-rate high quality speech coders
- 1993 – 1994: Development of a voice dialer for digital keyphone, which was implemented in a commercial product of Samsung Digital Keyphone Systems
- 1992 – 1993: Research on the speaker-independent speech recognition
- 1992 – 1992: Development of a 8kbps LSP vocoder
- 1991 – 1993: Development of a Korean text-to-speech system

Honors & Awards

- 2016.09, Final List, Best Student Paper Award
  - K. M. Jeon and **H. K. Kim**, "Local sparsity based online dictionary learning for environment-adaptive speech enhancement with nonnegative matrix factorization," in *Proc. of Interspeech*, San Francisco, CA, pp. 2861-2865, Sept. 2016.

	• 2015.01, Best Student Paper Award (3rd place) - C. J. Chun, S. H. Jeong, M. K. Choi, H. K. Kim, and M. J. Lee, "Conversion of nearly monaural audio to 5.1-channel audio for portable multimedia devices," in Proc. of IEEE International Conference on Consumer Electronics (ICCE), Las Vegas, NV, pp. 30-31, Jan. 2015. • 2015.11.16, 2010.11, Excellence in Research Award (Industry Collaboration) by GIST President • 2014.10.15, Merit Industry Collaboration Award by Minister of Education, Korea • 2012.05, KICS-IEEE Best Paper Award - K. M. Jeon, K. S. Kim, and H. K. Kim, "Alternatives of Speech Production Model for Statistical Speech Synthesis," *KICS Spring Conference*, pp. 46-49, 2012. • 2012.03, Best paper award (2012 International Conference on Advanced Signal Processing) - N. I. Park, J. A. Kang, and H. K. Kim, "A packet loss concealment algorithm based on artificial bandwidth extension for scalable wideband speech and audio coding." • 1996.12, Best Patent Award by Samsung Advanced Institute of Technology - **H. K. Kim**, M. Y. Kim, Y. D. Cho, and S. R. Kim, "Voice coding and decoding method and device therefor," U.S. Patent #5,884,251, 16 Mar. 1999, and also Japan Patent #10-55199, 24 Feb. 1998. • Graduated from Seoul National University with *cum laude* (1988.02) • Award a scholarship of good grade (1986) • Award a scholarship from Seoul National University (1984, 1985, 1987)
Professional Activities	• Editorial Committee - 2012 - Present: Area Editor (speech/audio/language), *Digital Signal Processing* (Elsevier Journal, SCI, JCR) - 2012 - Present: Editor: *Journal of Engineering*, http://www.hindawi.com/journals/je/editors/ - 2009 - Present: Chair, Next Generation Audio Working Group/Realistic Broadcasting Forum, Korea - 2012 – 2015: Review Board Member, National Research Foundation, Korea - 2013.01-2013.12: President, Signal Processing Society, The Electronics and Information Engineers, Korea • Program Committee / Special Session - 2004.10.4-8: A special session co-chair with Prof. Rick Rose on "Automatic Speech Recognition in the Context of Mobile Communications" in the International Conference on Spoken Language Processing (ICSLP), Jeju, Korea, member of technical organizing committee for ICSLP - 2004.11.18-19: Publicity Chair for 2004 *International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS)*, Seoul, Korea - 2007.09: Program Committee for SPIE OpticsEast 2007 Multimedia systems and Applications IX - 2008-2014: Program Committee for International Symposium on Signal Processing, Image Processing and Pattern Recognition - 2010-2015: Program Committee for International Workshop on Spoken Dialogue Systems. - 2013-Present: Program Committee for Three-Dimensional Systems and Applications (3DSA) - 2015.01.11-13: Technical Program Co-chair for 2015 International Workshop on Spoken Dialogue Systems (IWSDS), Busan, Korea • Membership - Senior Member of the IEEE (2000-), - Member of the ISCA (International Speech Communication Association) - Member of the KSEA (Korean-American Scientists and Engineers Association) - Member of Audio Engineering Society - Member of the IEICE (2003-) - APSIPA (Asia-Pacific Signal and Information Processing Association) friend lab • Technical Paper Reviewer: ICASSP (2004-Present), Interspeech (2004-Present), IEEE Transactions on Speech and Audio Processing, IEEE Signal Processing Letters, Speech Communication, IEEE Transactions on Communications, Journal of the Acoustical Society of America, Digital Signal Processing, ETRI Journal

Publications

Journal Papers

1. S. M. Kim and **H. K. Kim**, "False rejection of robust statistical voice activity detection in noisy environments," submitted to *IET Electronics Letters*, Sept. 2016.
2. K. M. Jeon and **H. K. Kim**, "Audio Enhancement Using Local SNR-Based Sparse Binary Mask Estimation and Spectral Imputation," submitted to *IEEE Transactions on Audio, Speech and Language Processing*, Sept. 2016.
3. Seon Man Kim and **Hong Kook Kim**, "Multi-microphone target signal enhancement using generalized sidelobe canceller controlled by phase error filter," *IEEE Sensors Journal*, Aug. 2016, accepted.
4. K. M. Jeon, **H. K. Kim**, and M. J, Lee, "Non-coherent low-frequency ultrasonic communication system with optimum symbol length," *International Journal of Distributed Sensor Networks*, vol. 2016, Article ID 9713180, 8 pages, 2016. doi:10.1155/2016/9713180, May 2016.
5. C. J. Chun and **H. K. Kim**, "Frequency-dependent amplitude panning for the stereophonic image enhancement of audio recorded using two closely spaced microphones," *Applied Sciences*, vol. 6, no. 2, 39, doi:10.3390/app6020039, Feb. 2016.
6. K. M. Jeon, D. Y. Lee, S. W. Yu, J. Kim, C.-S. Park, and **H. K. Kim**, "Design of a sound database for stress assessment of indoor noises in a TV-watching environment," *Asian International Journal of Life Sciences*, Supplement 11, pp. 563-571, July 2015.
7. C. J. Chun, H. Cho, S. C. Jun, and **H. K. Kim**, "Analysis of human auditory system on sound source localization using auditory evoked potentials," *Asian International Journal of Life Sciences*, Supplement 11, pp. 603-612, July 2015.
8. S. H. Choi and **H. K. Kim**, "Maximum likelihood speaking rate normalization of speech signals for improving access to speech-enabled automatic systems," *Asian International Journal of Life Sciences*, Supplement 11, pp. 197-206, July 2015.
9. J. A. Kang, N. I. Park, **H. K. Kim**, and S. R. Lee, "Adaptive speech streaming based on speech quality estimation and artificial bandwidth extension for voice over wireless multimedia sensor networks," *International Journal of Distributed Sensor Networks*, vol. 2015, Article ID 395752, 8 pages, doi:10.1155/2015/395752, June 2015.
10. S. M. Kim and **H. K. Kim**, "Direction-of-arrival based SNR estimation for dual-microphone speech enhancement," *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, vol. 22, no. 12, pp. 2207-2217, Dec. 2014.
11. W. K. Seong, J. H. Park, and **H. K. Kim**, "Reducing speech noise for patients with dysarthria in noisy environments," *IEICE Transactions on Information and Systems*, vol. E97-D, no.11, pp. 2881-2887, Nov. 2014.
12. S. M. Kim, C. J. Chun, and **H. K. Kim**, "Multi-channel audio recording based on superdirective beamforming for portable multimedia recording devices," *IEEE Transactions on Consumer Electronics*, vol. 60, no.3, pp. 429-435, Aug. 2014.
13. K. M. Jeon, **H. K. Kim**, S. J. Lee, and Y. K. Lee, "Nonnegative matrix factorization based adaptive noise sensing over wireless sensor networks," *International Journal of Distributed Sensor Networks*, vol. 2014, Article ID 640915, 9 pages, 2014, doi:10.1155/2014/640915, Apr. 2014.
14. N. I. Park, J. A. Kang, S. R. Lee, and **H. K. Kim**, "A packet loss concealment technique improving quality of service for wideband speech coding in wireless sensor networks," *International Journal of Distributed Sensor Networks*, vol. 2014, Article ID 852798, 8 pages, 2014, doi:10.1155/2014/852798, Apr. 2014.
15. S. M. Kim and **H. K. Kim**, "Noise variance estimation based on dual-channel phase difference for speech enhancement," *Digital Signal Processing*, vol. 26, pp. 169-182, Mar. 2014.
16. S. M. Kim and **H. K. Kim**, "Hybrid probabilistic adaptation mode controller for generalized sidelobe cancellers applied to multi-microphone speech enhancement," *Digital Signal Processing*, vol. 25, pp. 123-133, Feb. 2014.
17. K. M. Jeon, N. I. Park, **H. K. Kim**, M. K. Choi, and K. I. Hwang, "An MDCT-domain audio denoising method with a block switching scheme," *IEEE Transactions on Consumer Electronics*, vol. 59, no.4, pp. 818-824, Nov. 2013.
18. Y. G. Kim, S.-T. Moon, S. H. Choi, and **H. K. Kim**, "Ultrasonic sensor based personalized multichannel audio rendering for multiview broadcasting services," *International Journal of Distributed Sensor Networks*, vol. 2013, Article ID 417574, 9 pages, 2013, doi:10.1155/2013/417574, May 2013.
19. K. M. Jeon, N. I. Park, **H. K. Kim**, M. K. Choi, and K. I. Hwang, "Mechanical noise suppression based on non-negative matrix factorization and multi-band spectral subtraction for digital cameras," *IEEE Transactions on Consumer Electronics*, vol. 59, no. 2, pp. 296-302, May 2013.
20. N. I. Park and **H. K. Kim**, "Artificial bandwidth extension of narrowband speech applied to CELP-type speech coding," *Information: an International Interdisciplinary Journal*, vol. 16, no. 3(B), pp. 3153-3164, Mar. 2013.
21. S. M. Kim, **H. K. Kim**, S. J. Lee, and Y. Lee, "Multiple likelihood ratio test-based voice activity detection robust to impact noise in a car environment," *Information: an International Interdisciplinary Journal*, vol. 16, no. 3(B), pp. 3141-3151, Mar. 2013.
22. C. J. Chun, **H. K. Kim**, and S. R. Kim, "Enhanced reproduction of auditory image recorded using closely spaced stereo microphones," *Information: an International Interdisciplinary Journal*, vol. 16, no. 3(B), pp. 3275-3284, Mar. 2013.
23. K. M. Jeon, D. S. Kim, J. H. Park, W. K. Seong, **H. K. Kim**, and S. R. Lee, "A distributed cultural tourist guide system using HMM-based speech recognition and speech synthesis," *Information: an International Interdisciplinary Journal*, vol. 16, no. 2(B), pp. 1581-1588, Feb. 2013.
24. J. H. Park, **H. K. Kim**, M. B. Kim, and S. R. Kim, "A user voice reduction algorithm based on binaural signal separation for portable digital imaging devices," *IEEE Transactions on Consumer Electronics*, vol. 58, no. 2, pp. 679-684, May 2012.
25. Y. H. Lee, S. D. Jo, J. H. Park, D. S. Kim, N. I. Park, **H. K. Kim**, J. W. Kim, M. B. Kim, and S. R. Kim, "A time-scale modification-based voice changing method with seamless switching and its real-time implementation on digital imaging devices," *Information: an International Interdisciplinary Journal*, vol. 15, no. 3, pp. 1303-1316, Mar. 2012.
26. J. A. Kang and **H. K. Kim**, "An adaptive packet loss recovery method based on real-time speech quality assessment and redundant speech transmission," *International Journal of Innovative Computing, Information and Control*, vol. 7, no. 12, pp. 6773-6783, Dec. 2011.
27. C. J. Chun, **H. K. Kim**, S. H. Choi, S.-J. Jang, and S.-P. Lee, "Sound source elevation using spectral notch filtering and directional band boosting in stereo loudspeaker reproduction," *IEEE Transactions on Consumer Electronics*, vol. 57, no. 4, pp. 1915-1920, Nov. 2011.
28. J. A. Kang and **H. K. Kim**, "Adaptive redundant speech transmission over wireless multimedia sensor networks based on estimation of perceived speech quality," *Sensors*, vol. 11, no. 9, pp. 8469-8484, Sept. 2011.
29. J. A. Kang, C. J. Chun, **H. K. Kim**, M. B. Kim, and S. R. Kim, "A smart background music mixing algorithm for portable digital imaging devices," *IEEE Transactions on Consumer Electronics*, vol. 57, no. 3, pp. 1258-1263, Aug. 2011.
30. Y. R. Oh, Y. G. Kim, M. Kim, **H. K. Kim**, M. S. Lee, and H. J. Bae, "Phonetically balanced text corpus design using a similarity

measure for a stereo super-wideband speech database," *IEICE Transactions on Information and Systems*, vol. E94-D, no. 7, pp. 1459-1466, July 2011.

31. S. M. Kim and **H. K. Kim**, "Probabilistic spectral gain modification applied to beamformer-based noise reduction in a car environment," *IEEE Transactions on Consumer Electronics*, vol. 57, no. 2, pp. 866-872, May 2011.
32. N. I. Park, **H. K. Kim**, M. A. Jung, S. R. Lee, and S. H. Choi, "Burst packet loss concealment using multiple codebooks and comfort noise for CELP-type speech coders in wireless sensor networks," *Sensors*, vol. 11, no. 5, pp. 5323-5336, May 2011.
33. J. S. Yoon, J. H. Park, **H. K. Kim**, and H. Kim, "Acoustic model combination incorporated with mask-based multi-channel source separation for automatic speech recognition," *IEEE Journal of Selected Topics in Signal Processing*, vol. 4, no. 5, pp. 772-784, Oct. 2010.
34. Y. R. Oh and **H. K. Kim**, "A hybrid acoustic and pronunciation model adaptation approach for non-native speech recognition," *IEICE Transactions on Information and Systems*, vol. E93-D, no. 9, pp. 2379-2387, Sept. 2010.
35. Y.-G. Lee, H. Park, W. Woo, J. Ryu, **H. K. Kim**, S. W. Baek, K. H. Ko, H. K. Choi, S.-U. Hwang, D. B. Kim, H. Kim, and K. H. Lee, "Immersive modeling system (IMMS) for personal electronic products using multi-modal interface," *Computer-Aided Design*, vol. 42, no. 5, pp. 387-401, May 2010.
36. Y. H. Lee and **H. K. Kim**, "Entropy coding of compressed feature parameters for distributed speech recognition," *Speech Communication*, vol. 52, no. 5, pp. 405-412, May 2010.
37. A. Khare, M. Khare, Y. Jeong, **H. K. Kim**, and M. Joen, "Despeckling of medical ultrasound images using complex wavelet transform based Bayesian shrinkage," *Signal Processing*, vol. 90, no. 2, pp. 428-439, Feb. 2010.
38. Y. H. Lee, D. S. Kim, **H. K. Kim**, J. Sung, M. S. Lee, and H. Bae, "Bandwidth-scalable stereo audio coding based on a layered structure," *IEICE Transactions on Information and Systems*, vol. E92-D, no. 12, pp. 2540-2544, Dec. 2009.
39. Y. R. Oh, J. S. Yoon, **H. K. Kim**, M. B. Kim, and S. R. Kim, "A voice-driven scene-mode recommendation service for portable digital imaging devices," *IEEE Transactions on Consumer Electronics*, vol. 55, no. 4, pp. 1739-1747, Nov. 2009.
40. **H. K. Kim** and R. C. Rose, "Cepstrum-domain model combination based on decomposition of speech and noise using MMSE-LSA for ASR in noisy environments," *IEEE Transactions on Speech, Audio and Language Processing*, vol.17, no. 4, pp. 704-713, May 2009.
41. J. H. Park, J. S. Yoon, and **H. K. Kim**, "HMM-based mask estimation for a speech recognition front-end using computational auditory scene analysis," *IEICE Transactions on Information and Systems*, vol. E91-D, no. 9, pp. 2360-2364, Sept. 2008.
42. Y. R. Oh, J. S. Yoon, J. H. Park, M. Kim, and **H. K. Kim**, "A name recognition based call-and-come service for home robots," *IEEE Transactions on Consumer Electronics*, vol. 54, no. 2, pp. 247-253, May 2008.
43. **H. K. Kim** and S. H. Choi, "Cepstral domain interpretations of line spectral frequencies," *Signal Processing*, vol. 88, no. 3, pp. 756-760, Mar. 2008.
44. S. H. Choi and **H. K. Kim**, "A statistical approach to error compensation in spectral quantization," *IEICE Transactions on Information and Systems*, vol. E90-D, no. 9, pp. 1460-1464, Sept. 2007.
45. R. V. Cox and **H. K. Kim**, "Frame erasure concealment technique for a bitstream-based feature extractor," *Journal of the Acoustical Society of America*, vol. 121, no. 3, p. 1290, Mar. 2007. (patent abstract)
46. J. S. Yoon, G. H. Lee, and **H. K. Kim**, "A MFCC-based CELP speech coder for server-based speech recognition in network environments," *IEICE Transactions on Electronics, Communications and Computer Sciences*, vol. E90-A, no. 3, pp. 626-632, Mar. 2007.
47. Y. R. Oh, J. S. Yoon, and **H. K. Kim**, "Acoustic model adaptation based on pronunciation variability analysis for non-native speech recognition," *Speech Communication*, vol. 49, no. 1, pp. 59-70, Jan. 2007.
48. W. Shin, J.-G. Lee, **H. K. Kim**, and K. Sakurai, "Procedural constraints in the extended RBAC and the coloured Petri Net modeling," *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, vol. E88-A, no.1 pp.327-330, Jan. 2005.
49. **H. K. Kim,** M. S. Lee, and C. H. Kwon, "Harmonic model based excitation enhancement for low-bit-rate speech coding, " *IEICE Transactions on Information and Systems*, vol. E87-D, no. 7, pp. 1974-1977, July 2004.
50. **H. K. Kim**, "Compensation of speech coding distortion for wireless speech recognition," *IEICE Transactions on Information and Systems*, vol. E87-D, no. 6, pp. 1596-1600, June 2004.
51. **H. K. Kim** and R. C. Rose, "Cepstrum-domain acoustic feature compensation based on decomposition of speech and noise for ASR in noisy environments," *IEEE Transactions on Speech and Audio Processing*, vol. 11, no. 5, pp. 435-446, Sept. 2003.
52. H.-G. Kang, **H. K. Kim**, and R. V. Cox, "Improving the transcoding capability of speech coders," *IEEE Transactions on Multimedia*, vol. 5, no. 1, pp. 24-33, Mar. 2003.
53. **H. K. Kim**, R. V. Cox, and R. C. Rose, "Performance improvement of a bitstream-based front-end for wireless speech recognition in adverse environments," *IEEE Transactions on Speech and Audio Processing*, vol. 10, no. 8, pp. 591-604, Nov. 2002.
54. **H. K. Kim** and H.-G. Kang, "An adaptive short-term postfilter based on pseudo-cepstral representation of line spectral frequencies," *Speech Communication*, vol. 37, nos. 3-4, pp. 335-348, July 2002.
55. M. S. Lee, **H. K. Kim**, and H. S. Lee, "A new distortion measure for spectral quantization based on the LSF intermodel interlacing property," *Speech Communication*, vol. 35, nos. 3-4, pp. 191-202, Oct. 2001.
56. **H. K. Kim** and H.-G. Kang, "A frame erasure concealment algorithm based on gain parameter re-estimation for CELP coders," *IEEE Signal Processing Letters*, vol. 8, no. 9, pp. 252-256, Sept. 2001.
57. **H. K. Kim** and R. V. Cox, "A bitstream-based front-end for wireless speech recognition on IS-136 communications system," *IEEE Transactions on Speech and Audio Processing*, vol. 9, no. 5, pp. 558-568, July 2001.
58. **H. K. Kim** and H. S. Lee, "Spectral peak-weighted liftering of cepstral coefficients for speech recognition," *IEICE Transactions on Information and Systems*, vol. E83-D, no. 7, pp. 1540-1549, July 2000.
59. S. H. Choi, **H. K. Kim**, and H. S. Lee, "Speech recognition using quantized LSP parameters and their transformations in digital communication," *Speech Communication*, vol. 30, no. 4, pp. 223-233, Apr. 2000.
60. **H. K. Kim,** S. H. Choi, and H. S. Lee, "On approximating line spectral frequencies to LPC cepstral coefficients," *IEEE Transactions on Speech and Audio Processing*, vol. 8, no. 2, pp. 195-199, Mar. 2000.
61. **H. K. Kim** and H. S. Lee, "Use of spectral autocorrelation in spectral envelope linear prediction for speech recognition," *IEEE Transactions on Speech and Audio Processing*, vol. 7, no. 5, pp. 533-541, Sept. 1999.
62. **H. K. Kim** and H. S. Lee, "A Low-bit-rate extension algorithm to the 8 kbit/s CS-ACELP based on adaptive fixed codebook modeling," *IEICE Transactions on Information and Systems*, vol. E82-D, no. 7, pp. 1087-1092, July 1999.
63. M. S. Lee, **H. K. Kim**, and H. S. Lee, "LPC analysis incorporating spectral interpolation for speech coding," *Electronics Letters*, vol. 35, no. 3, pp. 200-201, Feb. 1999.

64. **H. K. Kim** and H. S. Lee, "Interlacing properties of line spectrum pair frequencies," *IEEE Transactions on Speech and Audio Processing*, vol. 7, no. 1, pp. 87-91, Jan. 1999.
65. **H. K. Kim**, S. H. Choi, and H. S. Lee, "Dynamic cepstral representations based on order-dependent windowing methods," *IEICE Transactions on Information and Systems*, vol. E81-D, no. 5, pp. 434-440, May 1998.
66. S. H. Choi, **H. K. Kim,** H. S. Lee, and R. M. Gray, "Speech recognition method using quantised LSP parameters in CELP-type coders," *Electronics Letters*, vol. 34, no. 2, pp. 156-157, Jan. 1998.

Book (Eds)

1. Gary Geunbae Lee, **Hong Kook Kim**, Minwoo Jung, and Jiwhan Kim (eds.), *Natural Language Dialog Systems and Intelligent Assistants* (IWSDS 2015), ISBN 978-3-319-19290-1, Springer International Publishing, Switzerland, July 2015.

Book Chapter

1. N. K. Kim, W. K. Seong, and **H. K. Kim**, "Lexicon optimization for WFST-based speech recognition using acoustic distance based confusability measure and G2P conversion," Chapter 12 in *Natural Language Dialog Systems and Intelligent Assistants*, G. G. Lee, **H. K. Kim**, M. Jung, and J. Kim (Eds.), Springer-Verlag, London, UK, pp. 119-127, July 2015.
2. J. H. Park, W. K. Seong, and **H. K. Kim**, "Preprocessing of dysarthric speech in noise based on CV–dependent Wiener filtering," *Proceedings of the Paralinguistic Information and Its Integration in Spoken Dialogue Systems Workshop*, R. L.-C. Delgado and T. Kobayashi (Eds.), Springer, pp. 41-47, Sept. 2011.
3. M. Kim, Y. R. Oh, and **H. K. Kim**, "Non-native pronunciation variation modeling for automatic speech recognition," Chapter 6 (pp. 83-104) in *Advances in Speech Recognition*, N. R. Shabtai (Eds.), Sciyo.com, Rijecka, Croatia, Sept. 2010.
4. **H. K. Kim** and R. C. Rose, "Speech recognition over mobile networks," Chapter in *Automatic Speech Recognition on Mobile Devices and over Communication Networks*, Z.-H. Tan and B. Lindberg (Eds.), Springer-Verlag, London, UK, Apr. 2008.
5. **H. K. Kim**, "Speech recognition over IP networks," Chapter in *Automatic Speech Recognition on Mobile Devices and over Communication Networks*, Z.-H. Tan and B. Lindberg (Eds.), Springer-Verlag, London, UK, Apr. 2008.

International Conference Proceedings (Selected)

1. K. M Jeon, C. J. Chun, H. K. Kim, and M. J. Lee, "Application of low-frequency ultrasonic communication to audio marker for augmented reality," in *Proc. of IEEE International Conference on Consumer Electronics (ICCE)*, Las Vegas, NV, Jan. 2017. Accepted.
2. W. K. Seong, N. K. Kim, H. K. Ha, and **H. K. Kim**, "A discriminative training method incorporating pronunciation variations for dysarthric automatic speech recognition," in *Proc. of Asia-Pacific Signal and Information Processing Association (APSIPA) Annual Summit and Conference*, Jeju, Korea, Dec. 2016. Accepted.
3. K. M. Jeon and **H. K. Kim**, "Local sparsity based online dictionary learning for environment-adaptive speech enhancement with nonnegative matrix factorization," in *Proc. of Interspeech*, San Francisco, CA, pp. 2861-2865, Sept. 2016.
4. J. H. Park, K. M. Jeon, C. J. Chun, J. S.Yoo, and **H. K. Kim**, "Preliminary experimental study on deep neural network-based dereverberation," in *Proc. of Audio Engineering Society 141st Convention*, Los Angeles, CA, Oct.-Nov. 2016.
5. Yong Guk Kim, YoungShin Kim, Sang Hyuck Lee, Sang-Taeck Moon, Moongu Jeon, and **Hong Kook Kim**, "Underwater acoustic sensor fault detection for passive sonar systems," in *Proc. of International Workshop on Sensing, Processing and Learning for Intelligent Machines (SPLINE)*, Aalborg, Denmark, pp. 85-88, July 2016.
6. C. J. Chun and **H. K. Kim**, "Improvement of DUET for blind source separation in closely spaced stereo microphone recording," in *Proc. of Audio Engineering Society 140th Convention*, Preprint 9543, Paris, France, June 2016.
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