PATENT:

1. S.Y. LEE and M. K. Hasan, "Apparatus for removing ring artifact in an X-ray CT (Computed Tomography) and a removing method thereof capable of revising the pixel value of a defective cell," Korean Patent ID: 1020110125696, 22 Nov. 2011.

2. M. K. Hasan and T. Ahmed, "Apparatus, Methods and Computer Products for Deep Learning Based Shear Wave Imaging," US Patent Application Filed ID: OMB 0651-0032, March 2019.

BOOK CHAPTER:

1. M. K. Hasan and S. R. Ara, Detection and Classification of Breast Lesions Using Ultrasound-based Imaging Modalities, Book tittle: Encyclopedia of Biomedical Engineering, Elsevier publisher, 2018.

Attenuation estimation of soft tissue with reference-free minimization of system effects

LIST OF PUBLICATIONS (Published/Accepted Papers Only)

a. Journal Publications (*recognized and refereed Journals*):

1. U. Kamal**,** T. S. Tonmoy, S. Das, and **M. K. Hasan**, "Automatic Traffic Sign Detection and Recognition Using SegU-Net and a Modified Tversky Loss Function with L1-Constraint", IEEE Trans. Intell. Transp. Sys., pp.1-13, early access, 2019.

2. M. S. R. Sajal and M. K. Hasan, "HASAN: Highly accurate sensitivity for auto-contrast-corrected pMRI reconstruction", Magnetic Resonance Imaging, vol.55, no.1, pp.153-170, 2019.

3. M. S. Tanveer and **M. K. Hasan,** "Cuffless blood pressure estimation from electrocardiogram and photoplethysmogram using waveform based ANN-LSTM network", Biomed. Signal Process. Contr, vol.51, pp.382-392, 2019.

4. M. H. R. Khan and **M. K. Hasan,** "Attenuation estimation of soft tissue with reference-free minimization of system effects", Biomed. Signal Process. Contr, vol.50, pp.121-133, 2019.

5. J. Dey and **M. K. Hasan,** "Ultrasonic tissue reflectivity function estimation using correlation constrained multichannel FLMS algorithm with missing RF data", Biomed. Phys. Eng. Express, vol.4, no.4, 2018.

6. N. I. Nizam**,** S. K. Alam, and **M. K. Hasan**, "EEMD domain AR spectral method for mean scatterer spacing estimation of breast tumors from ultrasound backscattered RF data", IEEE Trans. Ultrason. Ferroelectr. Freq. Control, pp.1487-1500, vol. 64, no. 10, 2017.

7. M. S. Islam, M. S.-E Rabbi, A. M. A. Dobaie, and **M. K. Hasan**, "PREHEAT: Precision heart rate monitoring from intense motion artifact corrupted PPG signals using constrained RLS and Wavelets", Biomedical Signal Processing and Control, vol. 38, pp. 212-223, 2017.

8. S. R. Ara, S. K. Bashar, F. Alam, and **M. K. Hasan**, "EMD-DWT based transform domain feature reduction approach for quantitative multi-class classification of breast lesions", Ultrasonics, vol. 80, pp. 22-33, 2017.

9. M. S.-E Rabbi and **M. K. Hasan**, "Speckle tracking and speckle content based composite strain imaging for solid and fluid filled lesions", Ultrasonics, vol. 54, pp. 124-139, 2017.
10. **M. K. Hasan,** M. S. E. Rabbi, and S. Y. Lee, "Blind deconvolution of ultrasound images using l_1-norm-constrained block-based damped variable step-size multichannel LMS algorithm", IEEE Trans. Ultrason. Ferroelectr. Freq. Control, vol. 63, no. 8, 2016.
11. E. Khan, F. A. Hossain, S. Z. Uddin, S. K. Alam, and **M. K. Hasan**, "A robust heart rate monitoring scheme using photoplethysmographic signals corrupted by intense motion artifacts", IEEE Trans. Biomed. Eng., vol. 63, no. 3, pp.550-562, 2016.
12. S. K. Bashar and **M. K. Hasan,** "Empirical mode decomposition based GRAPPA reconstruction algorithm for parallel MRI", Biomed. Phys. Eng. Express, **1**, **045006**, 2015.
13. M. G. Kibria and **M. K. Hasan**, "A class of kernel based real-time elastography algorithms", Ultrasonics, vol.61, pp.88-102, 2015.
14. S. R. Ara, F. Alam, M. H. Rahman, S. Akther, R. Awaal, and **M. K. Hasan,** "Bi-modal multi-parameter based approach for benign-malignant classification of breast tumors", Ultrasound in Medicine and Biology, vol.41, no.7, pp.2022-2038, 2015.
15. A. Nahiyan and **M. K. Hasan**, "Hybrid algorithm for elastography to visualize both solid and fluid filled lesions", Ultrasound in Medicine and Biology, vol. 41, no.4, pp.1058-1078, 2015.
16. M. K. Molla, K. Hirose, and **M. K. Hasan**, "Voiced/non-voiced speech classification using adaptive thresholding with bivariate EMD", Pattern Analysis and Application (PAA), Springer (UK), DOI 10.1007/s10044-015-0449-3, January, 2015.
17. M. A. Hussain**,** F. Alam, S. A. Rupa, R. Awaal, S. Y. Lee, and **M. K. Hasan**, "Lesion edge preserved direct average strain estimation for ultrasound elasticity imaging", Ultrasonics, vol. 54, no. 1, pp. 137-146, 2014.
18. E. Deger, M. K. I. Molla, K. Hirose, N. Minematsu, and **M. K. Hasan**, "Subband DCT and EMD based hybrid soft thresholding for speech enhancement", Advances in Acoustics and Vibration, Hindawai, *vol. 2014*, http://dx.doi.org/10.1155/2014/765454, 2014.
19. M. A. Haque, M. O. Ahmad, M. N. S. Swamy, **M. K. Hasan**, and S. Y. Lee**,** "Adaptive projection selection for computed tomography", IEEE Trans. Image Processing, vol. 22, no. 12, pp.5085-5095, 2013.
20. S. R. Ara, F. Mohsin**,** F. Alam, S. A. Rupa, R. Awaal, S. Y. Lee, and **M. K. Hasan**, "Phase-based direct average strain estimation for elastography", IEEE Trans. Ultrason. Ferroelectr. Freq. Control, vol. 60, no. 11, pp.2266-2283, 2013.
21. **M. K. Hasan**, M. A. Hussain**,** S. R. Ara, S. Y. Lee, and S. K. Alam, "Using nearest neighbors for accurate estimation of ultrasonic attenuation in the spectral domain", IEEE Trans. Ultrason. Ferroelectr. Freq. Control, vol. 60, no. 6, pp.1098-1114, 2013.
22. M. A. Hussain**,** E. M. A. Anas, S. K. Alam, S. Y. Lee, and **M. K. Hasan**, "Direct and gradient based average strain estimation by using weighted nearest neighbor cross-correlation peaks", IEEE Trans. Ultrason. Ferroelectr. Freq. Control, vol. 59, no. 8, pp.1713-1728, 2012.
23. **M. K. Hasan,** E. M. A. Anas, S. K. Alam, and S. Y. Lee, "Direct mean strain estimation for elastography using nearest-neighbor weighted least-squares approach in the frequency domain", Ultrasound in Medicine and Biology, vol. 38, no. 10, pp.1759-1777, 2012.
24. M. A. Hussain**,** E. M. A. Anas, S. K. Alam, S. Y. Lee, and **M. K. Hasan**, "Robust Strain-Estimation Algorithm Using Combined Radiofrequency and Envelope Cross-Correlation with Diffusion Filtering", Ultrasonic Imaging, vol. 34, pp.93-109**,** 2012.

25. S. Rashid**,** S. Y. Lee, and **M. K. Hasan**, "An improved method for the removal of ring artifacts in high resolution CT imaging", EURASIP Journal on Advances in Signal Processing, Elsevier, vol. 2012:93**,** 2012.

26. E. M. A. Anas, S. Y. Lee and **M. K. Hasan**, "High quality 3-D correction of ring and radiant artifacts in flat panel detector based cone beam volume CT imaging", Physics in Medicine and Biology, IOP, vol.56, no.19**,** pp.6495-6519, 2011.

27. E. M. A. Anas, S. Y. Lee and **M. K. Hasan**, "Comparison of ring artifact removal methods using flat panel detector based CT images", Biomedical Engineering Online, **10:**72**,** doi:10.1186/1475-925X-10-72, 2011.

28. S. K. Roy, K. I. Molla, K. Hirose and **M. K. Hasan**, "Harmonic modification and data adaptive filtering based approach to robust pitch estimation", International Journal of Speech Technology (IJST), Springer, vol. 14, pp.339-349, 2011.

29. M. A. Haque, T. Islam and **M. K. Hasan**, "Robust speech dereverberation based on blind adaptive estimation of acoustic channels", IEEE Trans. Audio, Speech, Language Process**.,** vol.19, no.4, pp.775-787, May 2011.

30. E. M. A. Anas, S. Y. Lee and **M. K. Hasan**, "Classification of ring artifacts for their effective removal using type adaptive correction schemes", Computers in biology and medicine, Elsevier, vol. 41, no. 6, pp. 390- 401, 2011.

31. E. M. A. Anas and **M. K. Hasan**, "Exploiting correlation of ECG with certain EMD functions for ventricular fibrillation detection", Computers in biology and medicine, Elsevier, vol. 41, pp.110-114**,** 2011.

32. A. N. M. Ashrafuzzaman, S. Y. Lee and **M. K. Hasan**, "A self-adaptive approach for the detection and correction of stripes in the sinogram: Suppression of ring artifacts in CT imaging", EURASIP Journal on Advances in Signal Processing, Elsevier, doi:10.1155/2011/183547, Volume 2011, Jan. 2011.

33. M. A. Arafat, A. W. Chowdhury, and M. K. Hasan, "A simple time domain algorithm for the detection of ventricular fibrillation in electrocardiogram", Signal, Image and Video Processing (SIViP), Springer (UK), vol.5, pp.1-10, 2011.

34. E. M. A. Anas, S. Y. Lee and **M. K. Hasan**, "Removal of ring artifacts in CT imaging through detection and correction of stripes in the sinogram", Physics in Medicine and Biology, IOP, vol. 55, pp.6911-6930**,** 2010.

35. M. Ryyan Khan and **M. K. Hasan**, "A novel model for show-through in scans of duplex printed documents", *in press* ***(published online*** DOI 10.1007/s11760-010-0192-6***),*** Signal, Image and Video Processing (SIViP), Springer (UK), Mar. 2010.

36. E. M. A. Anas and **M. K. Hasan**, "Sequential algorithm for ventricular tachycardia and fibrillation identification based on mean signal strength and low-order EMD functions", Biomedical Engineering online (UK), DOI: 10.1186/1475-925X-9-43, 9:43, 2010.

37. **M. K. Hasan,** M. A. Haque, and T. Islam, "Channel shortening using spectrally constrained least-squares minimization technique", Journal IET Signal Processing (formerly IEE Proceedings, UK), vol.4, no.6, pp.698-707, Dec. 2010.

38. **M. K. Hasan,** F. Sadi, and S. Y. Lee, "Removal of ring artifacts in micro-CT imaging using iterative morphological filter", DOI 10.1007/s11760-010-0170-z, Signal, Image and Video Processing (SIViP), Springer (UK), *Published online*, June, 2010.

39. T. Hasan and **M. K. Hasan**, "MMSE estimator for speech enhancement considering the constructive and destructive interference of noise", Journal IET Signal Processing (formerly IEE Proceedings, UK), vol. 4, no. 1, pp.1-11, Jan**.** 2010.

40. F. Sadi, S. Y. Lee, and **M. K. Hasan**, "Removal of ring artifacts in computed tomographic imaging using iterative center weighted median filter", vol. 40, no. 1, pp.109-118**,** Computers in biology and medicine, Elsevier, Jan. 2010.

41. M. Ryyan Khan, Hafiz Imtiaz, and **M. K. Hasan**, "Show-through correction in scanned images using joint histogram", Signal, Image and Video Processing (SIViP), Springer (UK), vol.4, pp.337-351, 2010.

42. **M. K. Hasan**, M. S. Apu, and M. K. I. Molla, "A robust method for parameter estimation of AR systems using empirical mode decomposition", Signal, Image and Video Processing (SIViP), Springer (UK), vol. 4, pp.451-461, 2010.

43. M. A. Arafat, J. Sieed, and **M. K. Hasan**, "Detection of ventricular fibrillation using empirical mode decomposition and Bayes decision theory", vol. 39, no. 11, pp.1051-1057**,** Computers in biology and medicine, Elsevier, Nov. 2009.

44. T. Islam and **M. K. Hasan**, "Improved eigenfilter design method for channel shortening equalizers for DMT systems", IEEE Signal Processing Letters, vol. 16, no. 5, pp.386-389, May 2009.

45. T. Hasan and **M. K. Hasan**, "Suppression of residual noise from speech signals using empirical mode decomposition", IEEE Signal Processing Letters, vol. 16, no. 1, pp.2-5, Jan. 2009.

46. M. A. Haque and **M. K. Hasan**, "Robust multichannel LMS-type algorithms with fast decaying transient for blind identification of acoustic channels", Journal IET Signal Processing (formerly IEE Proceedings, UK), vol. 2, no. 4, pp.431-441, Dec. 2008.

47. M. A. Haque and **M. K. Hasan**, "Noise robust multichannel frequency-domain LMS-type algorithms for blind channel identification", IEEE Signal Processing Letters, pp.305-308, vol.15, 2008.

48. M. A. Haque and **M. K. Hasan**, "Variable step-size multichannel frequency-domain LMS algorithm for blind identification of finite impulse response systems", Journal IET Signal Processing (formerly IEE Proceedings, UK), vol. 1, no. 4, pp.182-189, 2007.

49. M. A. Haque, M. S. A. Bashar, P. A. Naylor, K. Hirose and **M. K. Hasan**, "Energy constrained frequency-domain normalized LMS algorithm for blind channel identification", Signal, Image and Video Processing (SIViP), Springer (UK), pp.203-213, 2007.

50. N. D. Gaubitch**, M. K. Hasan**, and P. A. Naylor, "Generalized optimal step-size for blind multichannel LMS system identification"**,** IEEE Signal Processing Letters, vol. 13, no. 10, October 2006.

51. **M. K. Hasan**, S. Hussain, M. T. H. Setu, and M. N. I. Nazrul, "Signal reshaping using dominant harmonic for pitch estimation of noisy speech", Signal Processing, Elsevier Science B.V., vol. 86, no. 5, pp.1010-1018, 2006.

52. **M. K. Hasan,** N. M. Hossain, and P. A. Naylor, "A novel autocorrelation model-based identification method for ARMA systems in noise", IEE Proc.-Vis. Image Signal Process., vol. 152, no. 5, pp.520-526, October 2005.

53. **M. K. Hasan,** S. Salahuddin, and M. R. Khan, "A modified *a priori* SNR for speech enhancement using spectral subtraction rules", IEEE Signal Processing Letters, vol. 11, no. 4, pp.450-453, 2004.

54. **M. K. Hasan,** S. Salahuddin, and M. R. Khan, "Reducing signal-bias from MAD estimated noise level for DCT speech enhancement", Signal Processing, Elsevier Science B.V., vol. 84, no. 1, pp.151-162, 2004.

55. **M. K. Hasan,** A. K. M. Z. R. Chowdhury, and M. R. Khan, "Identification of autoregressive signals in colored noise using damped sinusoidal model", IEEE Trans. Circuits and Systems-I: Fundamental Theory and Applications, vol. 50, no. 7, pp.966-969, July 2003.

56. **M. K. Hasan,** S. A. Fattah and M. R. Khan, "Identification of noisy AR systems using damped sinusoidal model of autocorrelation function", IEEE Signal Processing Letters, vol. 10, no. 6, pp.157-160, June 2003.

57. S. M. M. Rahman and **M. K. Hasan**, "Wavelet-domain iterative center weighted median filter for image denoising", Signal Processing, Elsevier Science B.V., vol. 83, pp.1001-1012, April 2003.

58. **M. K. Hasan**, M. J. Hossain, and M. A. Haque, "Parameter estimation of multichannel autoregressive processes in noise", Signal Processing, Elsevier Science B.V., vol. 83, no. 3, pp.603-610, Feb. 2003.

59. **M. K. Hasan** and M. R. Khan, "Identification of autoregressive systems at a very low SNR using cosine model based estimation of autocorrelation function", Journal of Signal Processing, vol.7, no. 1, 15-21 January 2003.

60. M. S. A. Zilany, **M. K. Hasan** and M. R. Khan, "Signal-bias compensated noise level for wavelet speech enhancement", Journal of Signal Processing, vol.7, no. 1, pp.41-50, January 2003.

61. S. Salahuddin, S. Z. Al Islam, **M. K. Hasan**, and M. R. Khan, "Soft thresholding for DCT speech enhancement", IEE *Electron. Lett*., vol.38, no. 24, pp.1605-1607, Nov. 2002.

62. **M. K. Hasan**, M. S. A. Zilany, and M. R. Khan, "DCT speech enhancement with hard and soft thresholding criteria", IEE *Electron. Lett*., vol.38, no. 13, pp.669-670, June 2002.

63. M. I. H. Bhuiyan, **M. K. Hasan**, N. C. Hammadi and T. Yahagi, "Image compression with neural networks using dynamical construction algorithm", Journal of Signal Processing, vol.5, no.6, pp.445-454, November 2001.

64. M. A. Haque**, M. K. Hasan** and H. Tazawa**,** "Investigation of the nonlinearity in the heart rate dynamics", Medical Engineering & Physics, Elsevier Science B.V., vol.27, no.2, pp.27-31, 2001.

65. **M. K. Hasan** and K. I. U. Ahmed, "Further results on autoregressive spectral estimation from noisy observations", Trans. IEICE Fundamentals vol.E84-A, no.2, pp.577-588, Feb. 2001.

66. M. A. Haque**, M. K. Hasan**, M. E. R. Khan, M. Z. Islam and A. Saha, "Fractal modeling of time series data", Journal of Electrical Engineering, June 2000.

67. **M. K. Hasan**, M. A. Haque and G. N. Ali, "New iterative schemes for the input and parameter estimation of nonminimum phase ARMA systems", Journal of Electrical Engineering, vol.EE 27, no. II, pp.39-45, December 1999.

68. **M. K. Hasan** and T. Yahagi, "On the improvement of accuracy of input and parameter estimation of nonminimum phase MA systems", Journal of Signal Processing, vol.1, no.3, pp.195-204, May 1997.

69. **M. K. Hasan**, M. M. Mollah and T. Yahagi, "Maximum likelihood estimation of autoregressive systems degraded by colored noise", Journal of Signal Processing, vol.1, no.2, pp.125-133, March 1997.

70. **M. K. Hasan**, M. M. Mollah and T. Yahagi, "Identification of two-dimensional autoregressive systems from observations containing noise", Journal of Signal Processing, vol.1, no.1, pp.53-62, January 1997.

71. **M. K. Hasan** and T. Yahagi, "A new time-domain design method of IIR approximate inverse systems using all-pass filters", Trans. IEICE Fundamentals, vol.E79-A, no.11, pp.1870-1878, Nov. 1996.

72. **M. K. Hasan** and T. Yahagi, "An iterative method for the identification of multichannel autoregressive processes with additive observation noise", Trans. IEICE Fundamentals, vol. E79-A, no.5, pp.674-680, May 1996.

73. **M. K. Hasan**, S. Shimizu and T. Yahagi, "Design of approximate inverse systems using all-pass networks, Trans. IEICE Fundamentals", vol.E79-A, no.2, pp.248-251, Feb. 1996.

74. M. M. Shahidul Hassan and **M. K. Hasan**, "Dependence of second breakdown in transistor on load inductance and reverse base drive", Journal of Electrical Engineering, vol. EE23, no. I & II, pp.29-36, Dec. 1995.

75. **M. K. Hasan** and T. Yahagi, "New results on the ARMA modeling of AR signal plus white noise process", Trans. ISCIE, vol.8, no.11, pp.667-669, Nov. 1995.

76. **M. K. Hasan**, S. Shimizu and T. Yahagi, "Optimal design of approximate inverse systems in the frequency domain", Trans. ISCIE, vol.8, no.11, pp.670-672, Nov. 1995.

77. T. Yahagi and **M. K. Hasan**, "Estimation of noise variance from noisy measurements of AR and ARMA systems: application to blind identification of linear time-invariant systems", Trans. IEICE Fundamentals, vol.E77-A, no.5, pp.847-855, May 1994.

78. **M. K. Hasan**, T. Yahagi and M. A. A. Henriques, "An approach to ARMA model identification from noise corrupted output measurements", Trans. IEICE Fundamentals, vol.E77-A, no.4, pp.726-730, April 1994.

79. M. A. A. Henriques, **M. K. Hasan** and T. Yahagi, "An extension to the overfitting lattice filter for ARMA parameter estimation with additive noise", Trans. IEICE Fundamentals, vol.E77-A, no.3, pp.482-485, March 1993.

b) <u>International Conferences (*refereed*):</u>

80. A. M. Rafi, U. Kamal, R. Hoque, A. Abrar, Abid, S. Das, R. Laganiere, and M. K. Hasan, "Application of DenseNet in Camera Model Identification and Post-processing Detection", The IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, June 16-20, 2019, California, USA.

81. M. G. Kibria, S. R. Ara, F. Alam, M. A. Haque, S. Y. Lee, and **M. K. Hasan**, "Neighborhood weighted phase root seeking algorithm with temporal stretching for displacement and strain estimation", Joint UFFC, EFTF and PFM Symposium, July 21-25, 2013, Prague, Czech Republic.

82. S. K. Roy, M. K. I. Mollah, K. Hirose, and **M. K. Hasan,** "Dominant Harmonic Modification with Data Adaptive Filter Based Algorithm for Robust Pitch Estimation", Proc. of IEEE International Symposium on Circuits and Systems (ISCAS 2011), pp.2417-2420, May 15-18, 2011, Rio de Janeiro, Brazil.

83. E. M. A. Anas, J. Kim, S. Y. Lee and **M. K. Hasan**, "Ring artifact corrections in flat-panel detector based cone beam CT", Proc. of SPIE Medical Imaging Conf., February 12-17, 2011, Florida, USA.

84. S. K. Roy, M. K. I. Mollah, K. Hirose, and **M. K. Hasan,** "Pitch estimation of noisy speech signals using EMD-Fourier based hybrid algorithm", Proc. of IEEE International Symposium on Circuits and Systems (ISCAS 2010), Accepted, May 30-June 2, 2010, Paris, France.

85. M. A. Haque and **M. K. Hasan,** "Fast adaptive frequency-domain mutually referenced equalizers for SIMO channels with noise", Proc. of International Conference on Electrical and Computer Engineering (ICECE 2010), pp.522-525, December 18-20, 2010, Dhaka, Bangladesh.

86. E. M. A. Anas, S. Y. Lee and **M. K. Hasan,** "Removal of ring artifacts in X-ray micro tomography using polyphase decomposition and spline interpolation", Proc. of International Conference on Electrical and Computer Engineering (ICECE 2010), pp.638-641, December 18-20, 2010, Dhaka, Bangladesh.

87. A. Arafat and **M. K. Hasan**, "Automatic detection of ECG characteristic wave boundaries using empirical mode decomposition", Proc. of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2009), pp.461-465, April 19-24, 2009, Taipei, Taiwan.

88. M. A. Wahab, M. Adel Uzzaman, M. S. Hai, M. A. Haque and **M. K. Hasan**, "Variable step-size LMS for nonblind system identification with noise", Proc. of International Conference on Electrical and Computer Engineering (ICECE 2008), vol. 1, pp. 428-433, December 20-22, 2008, Dhaka, Bangladesh.

89. T. Islam, S. P. Majumder, and **M. K. Hasan**, "Noise optimized minimum delay spread equalizer design for DMT transceivers", Proc. of International Conference on Electrical and Computer Engineering (ICECE 2008), vol. 2, pp.898-901, December 20-22, 2008, Dhaka, Bangladesh.

90. T. Islam and **M. K. Hasan,** "On MIMO channel shortening for cyclic-prefixed system", Proc. of IEEE International Conference on Wireless Communications, Networking and Mobile Computing (WiCOM 2008), October 12-14, 2008, Dalian, China.

91. M. K. I. Mollah, K. Hirose, N. Minematsu, and **M. K. Hasan,** "A multiband approach for voiced/unvoiced discrimination of speech signals", Proc. of 2008 International Workshop on Nonlinear Circuits and Signal Processing (NCSP 2008), March 6-8, 2008, Gold Coast, Australia.

92. M. K. I. Mollah, K. Hirose, N. Minematsu, and **M. K. Hasan,** "Pitch estimation of noisy speech signals using empirical mode decomposition", Proc. of INTERSPEECH (INTERSPEECH 2007), August 27-31, 2007, Antwerp, Belgium.

93. E. Deger, M. K. I. Mollah, K. Hirose, N. Minematsu, and **M. K. Hasan,** "EMD based soft thresholding for speech enhancement", Proc. of INTERSPEECH (INTERSPEECH 2007), August 27-31, 2007, Antwerp, Belgium.

94. M. A. Haque and **M. K. Hasan,** "Performance comparison of the frequency-domain multichannel normalized and variable step-size LMS algorithms", Proc. of 15th European Signal Processing Conference (EUSIPCO 2007), September 3-7, 2007, Poznan, Poland.

95. T. Hasan and **M. K. Hasan,** "A Probabilistic speech enhancement filter utilizingthe constructive and destructive interference of noise", Proc. of 15th European Signal Processing Conference (EUSIPCO 2007), September 3-7, 2007, Poznan, Poland.

96. E. Deger, M. K. I. Mollah, K. Hirose, N. Minematsu, and **M. K. Hasan,** "Speech enhancement using soft THRESHOLDING with DCT-EMD based hybrid algorithm", Proc. of 15th European Signal Processing Conference (EUSIPCO 2007), September 3-7, 2007, Poznan, Poland.

97. T. Hasan**,** M. Huq, and **M. K. Hasan**, "Further enhancement of speech quality by extracting signal from residual", Proc. of the International Symposium on Signal Processing and Its Applications (ISSPA 2007), February 12-15, 2007, Sharjah, U.A.E.

98. M. K. I. Molla, K. Hirose, N. Minematsu, and **M. K. Hasan,** "Voiced/Unvoiced detection of speech signals using empirical mode decomposition model", Proc. of International Conference on Information and Communication Technology (ICICT 2007), March 7-9, 2007, Dhaka, Bangladesh.

99. R. Ahmad, A. W. H. Khong, **M. K. Hasan** and P. A. Naylor**,** "An extended normalized multichannel FLMS algorithm for blind channel identification", Proc. of 14th European Signal Processing Conference (EUSIPCO 2006), September 4-8, 2006, Florence, Italy.

100. **M. K. Hasan** and P. A. Naylor**,** "Effect of noise on blind adaptive multichannel identification algorithms: Robustness issue", Proc. of 14th European Signal Processing Conference (EUSIPCO 2006), September 4-8, 2006, Florence, Italy.

101. **M. K. Hasan,** "Damped variable step size multichannel Wiener LMS algorithm for blind channel identification with noise", Proc. of 5th International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSO 2006), pp.374-377, July 19-21, 2006, Patras, Greece.

102. M. A. Haque and **M. K. Hasan,** "Variable step size frequency domain multichannel LMS algorithm for blind channel identification with noise", Proc. of 5th International Symposium on

Communication Systems, Networks and Digital Signal Processing (CSNDSP 2006), July 19-21, 2006, Patras, Greece.

103. L. Akter and **M. K. Hasan**, "Crosscorrelation compensated Wiener filter for speech enhancement", Proc. of IEEE Internation Conference on Acoustics, Speech, and Signal Processing (ICASSP 2006), pp.I-457-I-460, May 15-19, 2006, Toulouse, France.

104. N. D. Gaubitch, **M. K. Hasan,** and P. A. Naylor, "Noise robust adaptive blind channel identification using spectral constraints", Proc. of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2006), pp.V-93-V-96, May 15-19, 2006, Toulouse, France.

105. **M. K. Hasan,** J. Benesty**,** P. A. Naylor and D. B. Ward**,** "Improving robustness of blind adaptive multichannel identification algorithms using constraints", Proc. of 13th European Signal Processing Conference (EUSIPCO 2005), September 4-8, 2005, Antalya, Turkey.

106. N. M. Hossain, M. S. I. Patwary, A. M. M. Reza, and **M. K. Hasan**, "An effective autocorrelation model for estimation of ARMA parameters from noisy observations", Proc. of the 11th International Workshop on Systems, Signals and Image Processing (IWSSIP 2004), September 13-15, 2004, Poznan, Poland.

107. Mohammad Zulhasnine and **M. K. Hasan,** "Delayless subband echo cancellers using computationally efficient parallel Kalman filters", Proc. of 12th European Signal Processing Conference (EUSIPCO 2004), pp. 397-400, September 7-10, 2004, Vienna, Austria.

108. M. R. Islam, H. Haque, M. Q. Apu and **M. K. Hasan,** "On the estimation of noise from pause regions for speech enhancement using spectral subtraction", Proc. of International Conference on Electrical and Computer Engineering (ICECE 2004), pp.402-405, December 28-30, 2004, Dhaka, Bangladesh.

109. **M. K. Hasan,** and L. Akter, "Quality improvement of enhanced speech in DCT domain using modified *a priori* SNR", Proc. of the 3rd IEEE International Symposium on Signal Processing and Information Technology (ISSPIT 2003), December 14-17, 2003, Darmstadt, Germany.

110. M. N. I. Nazrul, M. T. H. Setu, S. Hussain, and **M. K. Hasan**, "An effective speech preprocessing technique for normalized cross-correlation pitch extractor", Proc. of the 3rd IEEE International Symposium on Signal Processing and Information Technology (ISSPIT 2003), December 14-17, 2003, Darmstadt, Germany.

111. **M. K. Hasan,** C. Shahnaz, and S. A. Fattah, "Determination of pitch of noisy speech using dominant harmonic frequency", Proc. of IEEE International Symposium on Circuits and Systems (ISCAS 2003), pp.II556-559, May 25-28, 2003, Bangkok, Thailand.

112. F. Ferdousi, A. Tahseena, M. Sharmin, M. Murshed, I. R. Kabir, N. Jahan, M. R. Khan, and **M. K. Hasan,** "Parameter estimation of AR systems at a very low SNR using prefiltering in the autocorrelation domain", Proc. of IEEE TENCON 2003, pp.1377-1380, October 14-17, 2003, Bangalore, India.

113. M. Begum, N. Nahar, K. Fatimah, and **M. K. Hasan**, "An efficient wavelet-VQ method for image coding", Proc. of IEEE International Symposium on Circuits and Systems (ISCAS 2003), pp.II-428-431, May 25-28, 2003, Bangkok, Thailand.

114. C. Shahnaz, S. A. Fattah, and **M. K. Hasan**, "Pitch extraction of noisy speech using cosine model of autocorrelation function", Proc. of International Conference on Electrical and Computer Engineering (ICECE 2002), pp.152-155, December 26-28, 2002, Dhaka, Bangladesh.

115. S. Salahuddin, S. Z. Al Islam, **M. K. Hasan,** and M. R. Khan, "Speech enhancement by envelope restoration and soft thresholding in DCT domain", Proc. of International Conference on Electrical and Computer Engineering (ICECE 2002), pp.156-159, December 26-28, 2002, Dhaka, Bangladesh.

116. M. Begum, N. Nahar, K. Fatimah, and **M. K. Hasan**, "A new initialization technique for LBG algorithm", Proc. of International Conference on Electrical and Computer Engineering (ICECE 2002), pp.164-167, December 26-28, 2002, Dhaka, Bangladesh.

117. **M. K. Hasan**, A. K. M. Z. R. Chowdhury, Rubyet Adnan, M. M. R. Bhuiyan, and M. R. Khan, "A new method for parameter estimation of autoregressive signals in colored noise", Proc. of XI European Signal Processing Conference (EUSIPCO 2002), September 3-6, 2002, Toulouse, France.

118. M. S. A. Zilany**, M. K. Hasan**, and M. R. Khan, "Efficient hard and soft thresholding for wavelet speech enhancement", Proc. of XI European Signal Processing Conference (EUSIPCO 2002), September 3-6, 2002, Toulouse, France.

119. M. R. Huq, M. I. H. Bhuiyan, M. M. Rahman, Mostak Ahmed, **M. K. Hasan**, M. A. Rahman, "Image compression at variable bit rates with neural network using dynamical construction algorithm", Proc. of Sixth Internation Conference on Signal Processing (ICSP 2002), August 26-30, 2002, Beijing, China.

120. S. M. M. Rahman and **M. K. Hasan**, "Improved wavelet-based image denoising algorithm using iterative center weighted median filter", Proc. of Third International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP 2002), pp.304-307, July 15-17, 2002, Staffordshire, UK.

121. M. S. A. Zilany**, M. K. Hasan**, and M. R. Khan, and M. A. Rahman, "Wavelet speech enhancement using fourth-order cumulant", Proc. of Third International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP 2002), pp.387-390, July 15-17, 2002, Staffordshire, UK.

122. M. R. Huq, M. I. H. Bhuiyan, M. M. Rahman, S. M. M. Rahman, and **M. K. Hasan**, "Improved memoryless vector quantizer using LBG algorithm and neural networks for image compression", Proc. of Third International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP 2002), pp.264-267, July 15-17, 2002, Staffordshire, UK.

123. S. A. Fattah, **M. K. Hasan,** and M. R. Khan, "Identification of AR systems at a very low SNR using damped cosine model of the autocorrelation function", Proc. of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2002), pp.II-1737-1740, May 13-17, 2002, Orlando, USA.

124. M. A. Haque and **M. K. Hasan,** and M. S. Hakim, "Chaotic modeling of heart rate dynamics", Proceedings of the 1st IEEE International Symposium on Signal Processing and Information Technology (IEEE ISSPIT 2001), pp. 253-256, December 28-30, 2001, Cairo, Egypt.

125. M. I. H. Bhuiyan**, M. K. Hasan**, M. A. Haque, and N. C. Hammadi, "A robust method for image compression using dynamically constructive neural network", Proc. of the Sixth International Symposium on Signal Processing and its applications (IEEE ISSPA 2001), vol.2, pp.525-528, August 14-16, 2001, Kuala Lampur, Malaysia.

126. M. A. Haque and **M. K. Hasan**, "Fractal modeling of heart rate", Proceedings of International Conference on Electrical & Computer Engineering, pp. 94-96, January 5-6, 2001, Bangladesh.

127. M. I. H. Bhuiyan and **M. K. Hasan**, "New sub-image block classification method for still image compression using neural network", Proc. of International Conference on Electrical & Computer Engineering (ICECE'2001), January 5-6, 2001, Bangladesh.

128. **M. K. Hasan** and K. I. U. Ahmed, "A joint technique for autoregressive spectral estimation from noisy observations", Proc. of TENCON'2000, September 24-27, 2000, vol.II, pp.120-125, Malaysia.

129. **M. K. Hasan** and M. J. Hossain, "Multichannel autoregressive spectral estimation from noisy observations", Proc. of TENCON'2000, September 24-27, 2000, vol. I, pp.327-332, Malaysia.

130. **M. K. Hasan**, M. A. Haque, and G. N. Ali, "On the input and parameter estimation of nonminimum phase ARMA systems", Proc. of International Conference on Computer and Information Technology (ICCIT'99), pp. 70-74, December 1999, Bangladesh.

131. M. A. Haque and **M. K. Hasan**, "Predictive modeling of heart rate with neural network", Proc. of International Conference on Information, Communication and Signal Processing (**ICICS** '99), Abstract- p 68 (full paper in CD ROM), December 1999, Singapore.

132. **M. K. Hasan**, M. M. Mollah, and T. Yahagi, "Input and Parameter estimation of nonminimum phase MA systems", Proc. MOVIC'96, November 1996, Japan.

133. **M. K. Hasan**, M. M. Mollah, and T. Yahagi, "A genetic approach to the identification of 2-D causal AR systems using noisy observations", Proc. ICSPAT'96, October 1996, USA.

134. **M. K. Hasan** and T. Yahagi, "Accurate noise compensation technique for the identification of multichannel AR systems with noise", Proc. ISCAS'96, May 1996, USA.

135. M. M. Mollah, **M. K. Hasan,** and T. Yahagi, "Maximum likelihood estimation of nonminimum phase ARMAX models", Proc. JTC-CSCC, SP1-4, pp.13-16, July 1995, Japan.

C) *National Conferences in Japan*

130. **M. K. Hasan** and T. Yahagi, "A parallel algorithm for the identification of multichannel AR systems from noisy observations", Proc. IEICE Spring Conf., A-181, March 1996, Japan.

131. **M. K. Hasan**, M. M. Mollah and T. Yahagi, "Parameter estimation of AR systems corrupted by colored noise", Proc. IEICE Spring Conf., A-60, Sept. 1995, Japan.

132. **M. K. Hasan** and T. Yahagi, "Order estimation of noisy AR systems using inverse system", Proc. IEICE Spring Conf., A-59, Sept. 1995, Japan.

133. S. Shimizu, **M. K. Hasan** and T. Yahagi, "A design method for IIR approximate inverse system", Proc. 9th Digital Signal Processing Symposium", pp.165-169, Nov. 1994, Japan.

134. **M. K. Hasan**, S. Shimizu and T. Yahagi, "Frequency domain design of approximate inverse systems", Proc. IEICE Fall Conf., p.134, Sept. 1994, Japan.

135. T. Yahagi and **M. K. Hasan**, "A new technique for the estimation of AR parameters from noisy measurements", Proc. IEICE Spring Conf., Part 1, p. 1-220, March 1994, Japan.

136. T. Yahagi, **M. K. Hasan** and M. A. A. Henriques, "Estimation of AR parameters from noise corrupted measurements with unknown input and noise variance", Proc. IEICE Spring Conf., Part 1, p.1-132, Mar. 1993, Japan.

137. T. Yahagi and **M. K. Hasan**, "Identification of AR model from noisy measurements", Proc. IEICE Fall Conf., Part 1, p.1-94, Sept. 1993, Japan.