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Educational Background

- Ph.D. in Biomedical Engineering-Bioelectric, Tarbiat Modares University, Iran, 2006-2010
- M.Sc. in Biomedical Engineering-Bioelectric, University of Tehran, Iran, 2003-2006

Fields of Interest:

- Biomedical Signal Processing
- Ultrasound Signal Processing
- Adaptive Beamforming
- Array Signal Processing
- Pattern Recognition

Courses Taught

- Circuit Theory
- Signals and Systems
- Digital Signal Processing (DSP)
- Biomedical Signal Processing (BSP)
- Ultrasound in Medicine
- Array Signal Processing in Ultrasound Imaging

Publications

Journal papers:

2018

32- M. Jahanifar, N. Zamani Tajeddin, B. Mohammadzadeh Asl, and A. Gooya, "Supervised Saliency Map Driven Segmentation of the Lesions in Dermoscopic Images," *IEEE Journal of Biomedical and Health Informatics*, 2018, Accepted for publication.

31- N. Zamani Tajeddin and B. Mohammadzadeh Asl, "Melanoma Recognition in Dermoscopy Images Using Lesion's Peripheral Region Information," *Computer Methods and Programs in Biomedicine*, 2018, DOI: 10.1016/j.cmpb.2018.05.005. Accepted for publication.

30- A. M. Deylami and B. Mohammadzadeh Asl, "Iterative Minimum Variance Beamformer with Low Complexity for Medical Ultrasound Imaging," *Ultrasound in Medicine and Biology*, 2018. Accepted for publication.

29- A. T. Jafadideh and B. Mohammadzadeh Asl, "Spatio-Temporal Reconstruction of Neural Sources Using Indirect Dominant Mode Rejection," *Brain Topography*, 2018. Accepted for publication.

28- M. Haji Heidari, B. Mohammadzadeh Asl, and S. Faridsoltani, "An Adaptive Synthetic Aperture Method Applied to Ultrasound Tissue Harmonic Imaging," *IEEE Trans. Ultrason., Ferroelect., Freq. Contr.*, Vol. 65, No. 4, pp. 557-569, Apr. 2018, DOI: 10.1109/TUFFC.2018.2799870.

27- B. Mohammadzadeh Asl and A. M. Deylami, "A Low Complexity Minimum Variance Beamformer for Ultrasound Imaging Using Dominant Mode Rejection," *Ultrasonics*, Vol. 85, No. 4, pp. 49-60, Apr. 2018, DOI: 10.1016/j.ultras.2017.12.012.

2017

26- M. Rahbaripour and B. Mohammadzadeh Asl, "Premature Ventricular Contraction Arrhythmia Detection in ECG Signals via Combined Classifiers," *Journal of Signal and Data Processing*, 2017. (In Persian)-Accepted for publication.

25- S. Faridsoltani and B. Mohammadzadeh Asl, "Resolution and Contrast Enhancement of Synthetic Aperture Ultrasound Imaging Using Dual Stage Beamforming," *Journal of Acoustical Society of Iran*, 2017. (In Persian)-Accepted for publication.

24- A. T. Jafadideh and B. Mohammadzadeh Asl, "Enhanced Fast Fully Adaptive Beamformer for Localizing Brain Short Time Activities," *Iranian Journal of Biomedical Engineering*, Vol. 10, No. 4, pp. 347-359, 2017, DOI: 10.22041/IJBME.2017.72842.1269. (In Persian).

23- A. M. Deylami and B. Mohammadzadeh Asl, "A Fast and Robust Beamspace Adaptive Beamformer for Medical Ultrasound Imaging," *IEEE Trans. Ultrason., Ferroelect., Freq. Contr.*, Vol. 64, No. 6, pp. 947-958, Jun. 2017, DOI: 10.1109/TUFFC.2017.2685525.

22- H. Ahmadi and B. Mohammadzadeh Asl, "Fetal ECG Extraction via Type-2 Adaptive Neuro-fuzzy Inference Systems," *Computer Methods and Programs in Biomedicine*, Vol. 142, pp. 101-108, Apr. 2017, DOI: 10.1016/j.cmpb.2017.02.009.

21- M. Sotoodeh and B. Mohammadzadeh Asl, "Combined Phase Screen Aberration Correction and Minimum Variance Beamforming in Medical Ultrasound," *Ultrasonics*, Vol. 75, pp. 71-79, March 2017, DOI: 10.1016/j.ultras.2016.11.015.

20- A. D. Dolatabadi, S. E. Z. Khadem, and B. Mohammadzadeh Asl, "Automated Diagnosis of Coronary Artery Disease (CAD) Patients Using Optimized SVM," *Computer Methods and Programs in Biomedicine*, Vol. 138, pp. 117-126, Jan. 2017, DOI: 10.1016/j.cmpb.2016.10.011.

2016

19- E. Moghimirad, C. A. V. Hoyos, A. Mahloojifar, B. Mohammadzadeh Asl, J. A. Jensen, "Synthetic Aperture Ultrasound Fourier Beamformation Using Virtual Sources," *IEEE Trans. Ultrason., Ferroelect., Freq. Contr.*, Vol. 63, No. 12, pp. 2018-2030, Dec. 2016, DOI: 10.1109/TUFFC.2016.2606878.

18- M. Rahimpour and B. Mohammadzadeh Asl, "P Wave Detection in ECG Signals Using an Extended Kalman Filter: an Evaluation in Different Arrhythmia Contexts," *Physiological Measurement*, Vol. 37, pp. 1089-1104, July 2016, DOI: 10.1088/0967-3334/37/7/1089.

17- E. Moghimirad, A. Mahloojifar, and B. Mohammadzadeh Asl, "Computational Complexity Reduction of Synthetic Aperture Focus in Ultrasound Imaging Using Frequency-Domain Reconstruction," *Ultrasonic Imaging*, Vol. 38, No. 3, pp. 175-193, May 2016, DOI: 10.1177/0161734615583461.

16- A. M. Deylami and B. Mohammadzadeh Asl, "Low Complex Subspace Minimum Variance Beamformer for Medical Ultrasound Imaging," *Ultrasonics*, Vol. 66, No. 3, pp. 43-53, March 2016, DOI: 10.1016/j.ultras.2015.11.012.

15- A. M. Deylami and B. Mohammadzadeh Asl, "Amplitude and Phase Estimator Combined with the Wiener Postfilter for Medical Ultrasound Imaging," *Journal of Medical Ultrasonics*, Vol. 43, No. 1, pp. 11-18, Jan. 2016, DOI: 10.1007/s10396-015-0671-z.

2015

14- F. Shahbazi and B. Mohammadzadeh Asl, "Generalized Discriminant Analysis for Congestive Heart Failure Risk Assessment based on Long-Term Heart Rate Variability," *Computer Methods and Programs in Biomedicine*, Vol. 122, No. 2, pp. 191-198, Nov. 2015, DOI: 10.1016/j.cmpb.2015.08.007.

13- B. Mohammadzadeh Asl, "Combining the APES and Minimum Variance Beamformers for Adaptive Ultrasound Imaging," *Ultrasonic Imaging*, Vol. 38, No. 4, pp. 239-253, 2015, DOI: 10.1177/0161734615600167.

12- S. A. Izadi, A. Mahloojifar, and B. Mohammadzadeh Asl, "Weighted Capon Beamformer Combined with Coded Excitation in Ultrasound Imaging," *Journal of Medical Ultrasonics*, Vol. 42, No. 4, pp. 477-488, Oct. 2015, DOI: 10.1007/s10396-015-0640-6.

11- M. Sattarpour and B. Mohammadzadeh Asl, "Detection and Estimation of T Wave Alternans Using Multi-Lead ECG Signal Analysis," *Journal of Signal and Data Processing*, Vol. 12, No. 3, pp. 69-80, 2015. (In Persian)

2014

10- A. M. Deylami and B. Mohammadzadeh Asl, "Reducing the Computational Complexity of Minimum Variance Beamformer in Beamspace," *Journal of Acoustical Society of Iran*, Vol. 1, No. 2, pp. 24-30, Apr. 2014. (In Persian)

2013

9- Y. Fathi, A. Mahloojifar, and B. Mohammadzadeh Asl, "Real Time Implementation of Adaptive Beamformer in Medical Ultrasound Imaging Based on Parallel Processing with Graphical Processing Units," *Journal of Acoustical Society of Iran*, Vol. 1, No. 1, pp. 47-56, Oct. 2013. (In Persian)

2012

8- B. Mohammadzadeh Asl, A. R. Sharafat, and S. K. Setarehdan, "An Adaptive Backpropagation Neural Network for Arrhythmia Classification Using R-R Interval Signal," *Neural Network World*, Vol. 22, No. 6, pp. 535-548, Dec. 2012.

7- B. Mohammadzadeh Asl and A. Mahloojifar, "A Low-Complexity Adaptive Beamformer for Ultrasound Imaging Using Structured Covariance Matrix," *IEEE Trans. Ultrason., Ferroelect., Freq. Contr.*, Vol. 59, No. 4, pp. 660-667, Apr. 2012.

2011

6- M. Mohebbi, H. Ghassemian, and B. Mohammadzadeh Asl, "Structures of the Recurrence Plot of Heart Rate Variability Signal as a Tool for Predicting the Onset of Paroxysmal Atrial Fibrillation," *Journal of Medical Signals & Sensors*, Vol. 1, No. 2, pp. 113-121, May 2011.

5- B. Mohammadzadeh Asl and A. Mahloojifar, "Contrast Enhancement and Robustness Improvement of Adaptive Ultrasound Imaging Using Forward-Backward Minimum Variance Beamforming," *IEEE Trans. Ultrason., Ferroelect., Freq. Contr.*, Vol. 58, No. 4, pp. 858-867, Apr. 2011.

2010

4- B. Mohammadzadeh Asl and A. Mahloojifar, "Eigenspace-Based Minimum Variance Beamforming Applied to Medical Ultrasound Imaging," *IEEE Trans. Ultrason., Ferroelect., Freq. Contr.*, Vol. 57, No. 11, pp. 2381-2390, Nov. 2010.

2009

3- B. Mohammadzadeh Asl and A. Mahloojifar, "Minimum Variance Beamforming Combined with Adaptive Coherence Weighting Applied to Medical Ultrasound Imaging," *IEEE Trans. Ultrason., Ferroelect., Freq. Contr.*, Vol. 56, No. 9, pp. 1923-1931, Sep. 2009. (101 Citations until now)

2- B. Mohammadzadeh Asl and A. Mahloojifar, "An Efficient Adaptive Beamforming Method for Simultaneous Improvement of the Resolution and Contrast of Ultrasound Imaging," *Iranian Journal of Biomedical Engineering*, Vol. 3, No. 1, pp. 33-46, Mar. 2009. (In Persian)

2008

1- B. Mohammadzadeh Asl, S. K. Setarehdan, and M. Mohebbi, "Support Vector Machine-Based Arrhythmia Classification Using Reduced Features of Heart Rate Variability Signal," *Artificial Intelligence in Medicine*, Vol. 44, No. 1, pp. 51-64, Sep. 2008. (194 Citations until now)