



Dr. Rassoul Amirfattahi (Ph.D.)

Associate Professor

Address: Department of Electrical and Computer Engineering, Isfahan University of Technology, Isfahan, 84156-83111, Iran

Tel: (+98) 311 391 53 82

Fax: (+98) 311 391 2451

E-mail: Fattahi@cc.iut.ac.ir

Personal Information

Date of Birth: October 16, 1969

Marital Status: Married, with two children

Nationality: Iranian

Education

Department of Elect. Eng., Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran **1996-2002**

Ph.D. degree in Elect. Eng.

First rank in Ph.D. entrance exam (Total Average without Thesis : 17.4).

Thesis title: Speech production modeling of prelingually-deaf Farsi-Speaking patients after multichannel cochlear implantation.

Department of Biomed. Eng., Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran **1993-1996**

M.S. degree in Biomed. and Bioelect. Eng.

High rank in M.Sc. entrance exam (Total Average : 17.5).

Thesis title: Design and manufacture of body surface potential mapping (BSPM) system for detection of acute heart arrhythmias.

Department of Elect. and Comp. Eng., Isfahan University of Technology, Isfahan, Iran **1988-1993**

B.S. degree in Elect. Eng.

High rank in B.S. graduating class (Total Average : 17.1).

Project title: Digital control of speed and shaft-position of a DC-motor using 8085 microprocessor and personal computers.

Teaching Experience

A) Undergraduate Courses

1. Signals and Systems
2. Electrical circuit theory
3. Electronics system design
4. Microprocessors and Digital Circuits
5. Discrete-Time Signals and Systems
6. Microcomputer Interfacing and Peripheral System Design
7. Electronics and Microprocessor Lab.
8. Computer Control
9. Introduction to Biomedical Engineering

B) Graduate Courses

1. Discrete-Time Signal Processing
2. Digital Processing of Speech signals
3. Biomedical Signal Processing
4. Medical and Biomedical Instrumentation
5. Stochastic Processes
6. Advanced Topics in Digital Signal Processing
7. Modeling of physiological systems
8. Medical Imaging Systems

Research Area

Discrete-time signal processing, Speech analysis, Speech of hearing-impaired and cochlear implantation, Digital image processing, Medical imaging, Modeling of physiological systems, Biomedical signal processing and non-invasive diagnosis, Brain analysis, Computational and cognitive neurosciences.

Publications

Peer Reviewed Journal Papers

- 1.** Ahmadi B., Zaghari B., **Amirfattahi R.**, Mansouri M., "Quantification of Depth of Anesthesia by Means of Adaptive Calculation of Correlation Dimension Parameters", *fractals*, Vol. 17, No. 4, pp. 473-483, **2009**
- 2.** Taheri M., Ahmadi B., **Amirfattahi R.**, Mansouri M., "Assessment of Depth of Anesthesia Using Principal Component Analysis", *Journal of Biomedical Science and Engineering*, Vol. 2, No. 1, PP. 9-15, **2009**.
- 3.** Ebrahimnejad J., **Amirfattahi R.**, Shayegh F., "Lung Nodule Detection using Maximum Similarity and Template Matching in CT Scans", *International Journal of*

- Computer Assisted Radiology and Surgery , Vol. 4, Suppl. 1, PP. S363-S364, **2009**.
- 4. Amirfattahi R.**, "Real-Time Implementation of MPEG4-CELP with MPE Codec using TMS320C6713 DSK", International Journal of Computing and Applications, Vol. 4, No. 2, pp. 163-176, **2009**
 - 5. Mohaghegh Harandi N., Sadri S., Afshar Moghadam N., Amirfattahi R.**, "An Automated Method for Segmentation of Epithelial Cervical Cells in Images of ThinPrep", Journal of Medical Systems, Vol. 34, No. 6 , pp. 1043-1058, **2010**
 - 6. Ahmadi B., Amirfattahi R.**, "Comparison of Correlation Dimension and Fractal Dimension in Estimating BIS Index", Wireless Sensor Network, Vol. 2, No. 1, pp. 67-73, **2010**.
 - 7. Kafieh R., Lotfi T., Amirfattahi R.**, "Automatic Detection of Defects on Polyethylene Pipe Welding using Thermal Infrared Imaging", Infrared Physics & Technology, Vol. 54, Issue 4, pp. 317-325, **2011**
 - 8. Shayegh F., Amirfattahi R., Sadri S., Ansari-Asl K.**, "A Brief Survey of Computational Models of Normal and Epileptic EEG Signals: A Guideline to Model-Based Seizure Prediction", Journal of Medical Signals and Sensors, Vol. 1, Issue 1, pp. 62-72, **2011**
 - 9. Vahabi Z., Amirfattahi R., Mirzaei AR.**, "Enhancing P300 Wave of BCI Systems via Negentropy in Adaptive Wavelet Denoising", Journal of Medical Signals and Sensors, Vol. 1, Issue 3, pp. 165-176, **2011**
 - 10. Borjian N., Amirfattahi R., Sadri S.**, "Point Selection for Triangular 2-D Mesh Design using Adaptive Forward Tracking Algorithm", Positioning, Vol. 2, No. 1, pp. 22-35, **2011**
 - 11. Borjian N., Amirfattahi R., Sadri S.**, "A New Triangulation Method Based on Neighboring Test", International Journal on Communications Antenna and Propagation, Vol. 1, No. 2, pp. 145-151, **2011**
 - 12. Abolfathi M., Amirfattahi R.**, "Design and Implementation of a Reliable and Authenticated Satellite Image Communication", Telecommunication Systems, Vol. 49, No.2, pp. 171-177, **2012**
 - 13. Atashipour S.A., Mirdamadi H. R., Hemasian-Etefagh H., Amirfattahi R., Ziaei-Ras S.**, "An Effective Damage Identification Approach in Thick Steel Beams Based on Guided Ultrasonic Waves for Structural Health Monitoring Applications", Journal of Intelligent Material Systems and Structures, Vol. 24, No. 5, pp. 584-597, **2012**
 - 14. Sajjadi M., Karami M., Amirfattahi R., Bateni V., Ahmadzadeh M. R., Ebrahimi B.**, "A Promising Method of Enhancement for Early Detection of Ischemic Stroke", Journal of Research in Medical sciences, Vol. 17, No. 9, pp. 843-849, **2012**
 - 15. Malekian V., Amirfattahi R., Rezaeian M., Aghaei A., Rahimi P.**, "Automatic Detection and Localization of Surface Cracks in Continuously Cast Hot Steel Slabs Using Digital image Processing Techniques", International Journal of ISSI, Vol. 9, No. 1, pp. 30-40, **2012**

- 16. Amirfattahi R.**, "Calculation of Computational Complexity for Radix-2^p Fast Fourier Transform Algorithms for Medical Signals", *Journal of Medical Signals and Sensors*, Vol. 3, Issue 4, pp.217-224, **2013**
- 17. Shayegh F.**, Bellanger J. J., Sadri S., **Amirfattahi R.**, Ansari-Asl K., Senhadji L., "Analysis of The Behavior of a Seizure Neural Mass Model Using Describing Functions", *Journal of Medical Signals and Sensors*, Vol. 3, Issue 1, pp.2-14, **2013**
- 18. Nejadi M.**, Sadri S., **Amirfattahi R.**, "Nonrigid Image Registration in Digital Subtraction Angiography Using Multilevel B-Spline", *BioMed Research International*, Vol. 13, pp. 1-12, **2013**
- 19. Malekian V.**, **Amirfattahi R.**, Sadri S., Mokhtari M., Aghaie A., Rezaeian M., "Computer Aided Measurement of Sub-Epithelial Collagen Band in Colon Biopsies for Collagenous Colitis Diagnosis", *Micron*, Vol. 45, No. 2, pp. 59-67, **2013**
- 20. Salehi S. A.**, **Amirfattahi R.**, Parhi K. K., "Pipelined Architectures for Real-Valued FFT and Hermitian-Symmetric IFFT With Real Datapaths", *IEEE Transactions on Circuits and Systems II*, Vol. 60, No. 8, pp. 507-511, **2013**
- 21. Zamani HosseinAbadi H.**, Nazari B., Amirfattahi R., Mirdamadi H., Sadri A. R., "Wavelet Network Approach for Structural Damage Identification Using Guided Ultrasonic Waves", *IEEE Transactions on Instrumentation and Measurement*, Vol. 63, No. 7, pp. 1680-1692, **2014**
- 22. Shayegh F.**, Sadri S., **Amirfattahi R.**, Ansari-Asl K., "Proposing a Two-Level Stochastic Model for Epileptic Seizure Genesis", *Journal of Computational Neurosciences*, vol. 36, pp. 39-53, **2014**
- 23. Hajmolahoseini H.**, **Amirfattahi R.**, Soltanian-Zadeh H., 'A Robust Vehicle Tracking Algorithm for Nighttime Videos Captured by Fixed Cameras in Highly Reflective Environments', *IET Computer Vision*, vol.8, iss. 6, pp. 535-544, **2014**
- 24. Mohammadi-Mobarakeh A.**, Hatami B., **Amirfattahi R.**, Jalili-Zand A., "Dominant Frequency Characteristics of Calling Songs in Cicada *Chloropsalta smaragdula* Haupt and its Relationship with Body Length, Width, and Weight", *Technical Journal of Engineering and Applied Sciences*, vol. 2, no. 6, pp. 330-332, **2014**
- 25. Shayegh F.**, Sadri S., **Amirfattahi R.**, Ansari-Asl K., "A Model-Based Method for Computation of Correlation Dimension, Lyapunov Exponents and Synchronization From Depth EEG Signals", *Computer Methods and Programs in Biomedicine*, Vol. 113, Issue 1, pp. 323-337, **2014**
- 26. Gholamzadeh M.**, Semnani D., Zarrebini M., **Amirfattahi R.**, " Intelligent Model to Investigate the Sound of Woven Fabric by Using Signal Processing and Artificial Neural Network", *Journal of Signal Processing Theory and Applications*, Vol. 3, No. 1, pp. 20-35, **2014**
- 27. Shayegh F.**, Sadri S., **Amirfattahi R.**, Ansari-Asl K., Bellanger J. J., Senhadji L.,

- "Hippocampal effective synchronization values are not pre-seizure indicator without considering the state of the onset channels", *Network: Communication in Neural Systems*, Vol. 25, No. 4, pp. 139-167, **2014**
- 28.** Taghizadeh Dehkordi M., Jalalat M., Sadri S., Doosthoseini A., Ahmadzadeh M. R., **Amirfattahi R.**, "Vesselness-guided Active Contour: A Coronary Vessel Extraction Method", *Journal of Medical Signals and Sensors*, Vol. 4, Iss. 2, pp. 150-157, **2014**
- 29.** Zamani Hosseinabadi H., **Amirfattahi R.**, Nazari B., Mirdamadi H. R., Atashipour S. A., "GUW-based structural damage detection using WPT statistical features and multiclass SVM", *Applied Acoustics*, Vol. 86, pp. 59-70, **2014**
- 30.** Rezaeian M., **Amirfattahi R.**, Sadri S., "Semantic Segmentation of Aerial Images Using Fusion of Color and Texture Features", *Journal of Computing and Security*, Vol. 1, No. 3., pp. 225-238, **2014**
- 31.** Vahabi z., **Amirfattahi R.**, "Longitudinal Impedance Tomography for Blood Pressure Characterization of Valve Deformation", *Journal of Medical Signals and Sensors*, Vol. 5, Iss. 2., pp. 97-104, **2015**
- 32.** Vahabi Z., **Amirfattahi R.**, "3D Aortic Impedance Tomography Analysis as a Perspective of Blood Flow Velocity", *International Journal of Electrical and Computer Engineering*, Vol. 5, No. 2, pp. 159-171, **2015**
- 33.** Vahabi Z., **Amirfattahi R.**, Shayegh F., Ghassemi F., "Online Epileptic Seizure Prediction Using Wavelet-Based Bi-Phase Correlation of Electrical Signals Tomography", *International Journal of Neural Systems*, Vol. 25, No. 6, pp. 1550028:1-1550028:22, **2015**
- 34.** Hajimolahoseini H., **Amirfattahi R.**, Soltanian-Zadeh H., Gazor S., "Instantaneous fundamental frequency estimation of non-stationary periodic signals using non-linear recursive filters", *IET Signal Processing*, Vol. 9, Iss. 2, pp. 143-153, **2015**
- 35.** Rostami F., **Amirfattahi R.**, Sadri S., Nabi F., Riazi Esfahani M., "Video Densitometry Technique in Computation of Blood Flow Velocity in Diabetic Retinopathy", *Journal of Medical Imaging and Health Informatics*, Vol. 6, pp. No. 1, pp. 133-140, **2016**
- 36.** Hajimolahoseini H., **Amirfattahi R.**, Gazor S., Soltanian-Zadeh H., "Robust Estimation and Tracking of Pitch Period Using an Efficient Bayesian Filter", *IEEE/ACM Transactions on Audio, Speech and Language Processing*, Vol. 24, No. 7, pp. 1219-1229, **2016**
- 37.** Heidari M., **Amirfattahi R.**, Nazari B., Rahimi P., "An industrial image processing-based approach for estimation of iron ore green pellet size distribution", *Powder Technology*, Vol. 303, pp. 260-268, **2016**
- 38.** Fadaei S., **Amirfattahi R.**, Ahmadzadeh M. R., "New content-based image retrieval system based on optimised integration of DCD, wavelet and curvelet features", *IET Image Processing*, doi: 10.1049/iet-ipr.2016.0542, **2016**

Selected Conference Papers

1. Sheikhzadeh Nadjar H., **Amirfattahi R.**, "Objective Long Term Assessment of Speech Quality Changes in Pre-Lingual Cochlear Implant Children", in Proceedings of 6th International Conference on Spoken Language Processing (ICSLP2000), **2000**
2. Karimi Dehkordi M., **Amirfattahi R.**, Sadri S., Marvasti S., "Noninvasive Detection and Classification of Coronary Artery Occlusions Using Wavelet Analysis of Heart Sounds with Neural Networks", in Proceedings of International IEE Conference on Medical Applications of Signal Processing (MASP2005) , **2005**
3. Hosseini I., Rahmaty M., Sadri M., Shams N., **Amirfattahi R.**, "An FPGA Based Facial Component Extractor Using Wavelet-Based Salient Points", in Proceedings of International Conference on Information & Communication Technologies: from Theory to Applications (ICTTA 2006) , PP. 1510-1515, **2006**
4. Taheri O., Movahedian Attar A., Sadri S., **Amirfattahi R.**, Hosseini I., "Dot Diffusion with Nonlinear Thresholding to Hide Data in Halftone Images", in Proceedings of International Conference on Information & Communication Technologies: from Theory to Applications (ICTTA 2006) , PP. 1469-1472, **2006**
5. Movahedian Attar A., Taheri O., Hosseini I., **Amirfattahi R.**, "Hiding Data in Color Halftone Images Using Error Diffusion with Nonlinear Thresholding", in Proceedings of International Conference on Information & Communication Technologies :from Theory to Applications (ICTTA 2006) , PP. 1493-1499, **2006**
6. Movahedian Attar A., Taheri O., Sadri S., **Amirfattahi R.**, "Data Hiding in Halftone Images Using Error Diffusion Method with Adaptive Thresholding", in Proceedings of Canadian Conference on Electrical and Computer Engineering (IEEE-CCECE 2006) , **2006**
7. Taheri O., Movahedian Attar A., Samavi S., **Amirfattahi R.**, "Watermarking for Halftone Images Using Error Diffusion with Nonlinear Thresholding", in Proceedings of Canadian Conference on Electrical and Computer Engineering (IEEE-CCECE 2006) , **2006**
8. Yektaeian M., **Amirfattahi R.**, "Objective Quality Evaluation of Speech Communication Channels Using Dynamic Spectral Features", in Proceedings of 14th Iranian Conference on Electrical Engineering (ICEE2006), **2006**
9. Shahedi Baghkhandan M., **Amirfattahi R.**, Torkamani Azar F., Sadri S., "Accurate Breast Region Detection in Digital Mammograms Using a Local Adaptive Thresholding Method", in Proceedings of 8th International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS 2007), **2007**
10. Ahmadi B., **Amirfattahi R.**, Mansouri M., Negahbani E., Taheri M., "Comparison of

Adaptive and Fixed Segmentation in Different Calculation Methods of Electroencephalogram Time-Series Entropy for Estimating Depth of Anesthesia", in Proceedings of the International Special Topic Conference on Information Technology Applications in Biomedicine (ITAB2007) , **2007**

11. Negahbani E., **Amirfattahi R.**, Ahmadi B., Mehri Dehnavi A., Rouzbeh M., "Analysis of Electroencephalogram, Revealing the Processing Algorithm of Depth of Anesthesia Monitor", in Proceedings of the 1st Iranian Conference on Data Mining, **2007**

12. Mohammadi R., **Amirfattahi R.**, "Implementation of Subband Coding on Farsi Speech Language", in Proceedings of 5th International Conference on Electrical and Electronics Engineering (ELECO 2007), PP. 369-372, **2007**

13. Kafieh R., Mehri Dehvavi A., **Amirfattahi R.**, "Detection of Ventricular Arrhythmias Using Roots Location in AR-Modeling", in Proceedings of 6th International Conference on Information , Communications and Signal Processing (ICICS 2007) , **2007**

14. Yektaeian M., **Amirfattahi R.**, "Comparison of Spectral Subtraction Methods Used in Noise Suppression Algorithms", in Proceedings of 6th International Conference on Information, Communications and Signal Processing (ICICS 2007), **2007**

15. Borjian N., Sadri S., **Amirfattahi R.**, "Adaptive Forward-Tracking Mesh Model", in Proceedings of 13th CSI International computer Conference (CSICC 2008) , **2008**

16. Negahbani E., **Amirfattahi R.**, Ahmadi B., Mehri Dehnavi A., Rouzbeh M., Zaghari Z., Hashemi B., "Electroencephalogram Fractal Dimension as a Measure of Depth of Anesthesia", in Proceedings of 3rd International Conference on Information & Communication Technologies: from Theory to Applications(ICTTA 2008) , **2008**

17. Taheri Hosseinabadi M., Ahmadi B., **Amirfattahi R.**, Dadkhah Aliabadi M., Sharifian Koupaei A., Mansouri M., "A Principal Component Analysis Based Method for Estimating Depth of Anesthesia", in Proceedings of the 2nd International Conference on Bioinformatics and Biomedical Engineering (ICBBE 2008) , pp. 547-555, **2008**

18. Mohammadi M., Ashourian M., **Amirfattahi R.**, "Performance Evaluation of a JPEG-Based Multiple Description Image Coder", in Proceedings of the 3rd International Symposium on Information Technology (ITSIM 2008), **2008**

19. Hemmat A., Khorsandy A., Masoumi A., **Amirfattahi R.**, "Development, Construction and Evaluation of an On-The-Go Soil Mechanical Resistance Sensor", in Proceedings of 10th International Congress on Mechanization and Energy in Agriculture, **2008**

20. Jafari M., Hemmat A., Sadeghi M., **Amirfattahi R.**, "Design and Development of a Variable-Rate Seeder: A Study of Time of Response", in Proceedings of 10th International Congress on Mechanization and Energy in Agriculture, pp. 218-222, **2008**

21. Ahmadi B., Negahbani E., **Amirfattahi R.**, Zaghari B., Mansouri M., "Extraction of BIS^m Index Sub-Parameters in Different Anesthetic and Sedative Levels", in Proceedings of

- 9th International Conference on Signal Processing (ICSP08) , pp. 2665-2673, **2008**
- 22.** Rahimi Y., **Amirfattahi R.**, Ghaderi R., "Design of A Neural Network Classifier for Separation of Images with One Chromosome From Images with Several Chromosomes", in Proceedings of 3rd International Conference on Broadband Communications, Information Technology & Biomedical Applications, pp. 186-194, **2008**
- 23.** Sharifzadeh Lari M., Alirezaei SH., **Amirfattahi R.**, Sadri S., "Detection of Steel Defect Using the Image Processing Algorithms", in Proceedings of the 12th IEEE International Multi-Topic Conference, Conquering the Horizons of Future Technology (IEEE INMIC 2008), pp. 125-127, **2008**
- 24.** Vaseghi M., Alirezaei SH., Ahmadi M., **Amirfattahi R.**, "Off-Line Farsi / Arabic Handwritten Word Recognition using Vector Quantization and Hidden Markov Model", in Proceedings of the 12th IEEE International Multi-Topic Conference, Conquering the Horizons of Future Technology (IEEE INMIC 2008), pp. 575-578, **2008**
- 25.** Zaghari B., Ahmadi B., **Amirfattahi R.**, "Comparison of Correlation Dimension and Fractal Dimension in Estimating Level of Consciousness", in Proceedings of the 15th Iranian Conference on Biomedical Engineering (ICBME 2009), pp. 80-85, **2009**
- 26.** Yektaeian M., **Amirfattahi R.**, "Comparison Between Noise Reduction Algorithms for Speech Signals Using Auditory Masking Effects", in Proceedings of IEEE-GCC 2009 Conference, **2009**
- 27.** Shayegh Boroojeni F., Sadri S., **Amirfattahi R.**, "A Theoretical Model for Spontaneous Seizure Generation Based on Markov Chain Process", in Proceedings of 4th International IEEE EMBS Conference on Neural Engineering, pp. 637-640, **2009**
- 28.** Ebrahimnejad J., **Amirfattahi R.**, Shayegh Boroojeni F., "Lung Nodule Detection Using Maximum Similarity and Template Matching in CT Scans", in Proceedings of Computer Assisted Radiology and Surgery (CARS 2009), **2009**
- 29.** Abolfathi M., **Amirfattahi R.**, "A Reliable Watermarking Algorithm Based on Wavelet Transform for Satellite Images", in Proceedings of the 2009 International Conference on Multimedia Information Networking and Security (MINES 2009), pp. 588-592, **2009**
- 30.** Mansouri R., Saraee M. H., **Amirfattahi R.**, "Application of Data mining in predicting cell phones Subscribers Behavior Employing the Contact pattern", in Proceedings of 2010 International Conference on Data Storage and Data Engineering (DSDE 2010), pp.63-68, **2010**
- 31.** Pour-Yazdanpanah A., Faez K., **Amirfattahi R.**, "Multimodal Biometric System Using Face, Ear and Gate Biometrics", in Proceedings of 10th International Conference on Information Science, Signal Processing and Their Applications (ISSPA 2010), pp.251-254, **2010**
- 32.** Nejati M., **Amirfattahi R.**, Sadri S., "A Fast Hybrid Approach for Approximating a

- Thin-Plate Spline Surface", in Proceedings of 18th Iranian Conference on Electrical Engineering (ICEE 2010), pp.204-208, **2010**
- 33.** Fooladivanda A., Chehrerazi N., Sadri S., **Amirfattahi R.**, Montazeri M. A., "Automatic Segmentation of Pallet Images Using the 2-D Wavelet Transform and YUV Color Space", in Proceedings of 18th Iranian Conference on Electrical Engineering (ICEE 2010), pp.209-214, **2010**
- 34.** Nejati M., **Amirfattahi R.**, Sadri S., " A Fast Image Registration Algorithm for Digital Subtraction Angiography", in Proceedings of the 17th Iranian Conference on Biomedical Engineering (ICBME 2010), **2010**
- 35.** Anari V., **Amirfattahi R.**, Mahzouni P., "Comuter-Aided Detection of Proliferative Cells Mitosis Index in Immunohistichemically Images of Meningioma ", in Proceedings of 6th Iranian Conference on Machine Vision and Image Processing (MVIP 2010), pp. 33-37, **2010**
- 36.** Anari V., **Amirfattahi R.**, Mahzouni P., "Automatic Extraction of Positive Cells in Pathology images of Meningioma Based on the Maximal Entropy Principle and HSV Color Space", in Proceedings of 6th Iranian Conference on Machine Vision and Image Processing (MVIP 2010), pp. 19-22, **2010**
- 37.** Saeidi M., **Amirfattahi R.**, Amini A., Sajadi M., "Online signature verification using combination of two classifiers", in Proceedings of 6th Iranian Conference on Machine Vision and Image Processing (MVIP 2010), pp. 201-204, **2010**
- 38.** Salehi A., **Amirfattahi R.**, "A Blocked Base 2-D Discrete Wavelet Transform Structure with New Scan Method for Overlapped Sections", in Proceedings of the 1st Middle East Conference on Biomedical Engineering (MECBME 2011), **2011**
- 39.** Rahimi Esfahani H., **Amirfattahi R.**, Kiyoumars F., Borzabadi E., "Designing Passive Filter for Harmonic Reduction in a Noisy System based on Discrete wavelet Transform", in Proceedings of 4th IEEE International Conference on Computer Science and Information Technology (ICCSIT 2011), pp. 40-45, **2011**
- 40.** Shayegh F., **Amirfattahi R.**, Sadri S., Ansari-Asl K., "Evaluation of Some Physiological Statements About Seizure Using Processing of Epileptic EEG Signals", in Proceedings of 19th Iranian Conference on Electrical Engineering (ICEE 2011), pp.3311-3316, **2011**
- 41.** Malekian V., Mokhtari M., Sadri S., **Amirfattahi R.**, Aghaie A., "Detection of Collagenous Colitis Based On Histopathology Image Segmentation of Colon", in Proceedings of 7th Iranian Conference on Machine Vision and Image Processing (MVIP 2011), **2011**
- 42.** Sajjadi M., **Amirfattahi R.**, Ahmadzadeh M. R., "A New NSCT Based Contrast Enhancement Algorithm for Amplification of Early Signs of Ischemic Stroke in Brain CT Images", in Proceedings of 7th Iranian Conference on Machine Vision and Image Processing

(MVIP 2011), **2011**

43. Jalalat Vakilkandi M., Ahmadzadeh M. **R.**, **Amirfattahi R.**, Sadri S., "Accurate Coronary Vessel Extraction Using Fast Directional Filter Bank", in Proceedings of 7th Iranian Conference on Machine Vision and Image Processing (MVIP 2011), **2011**

44. Shayegh F., **Amirfattahi R.**, Sadri S., Ansari-Asl K., Saraaee M. H., "Defining a New Measure for Synchronization of Multichannel Epileptic Depth-EEG Signals Based on Identification of Parameters of a Computational Model", in Proceedings of the IASTED International Conference on Computational Bioscience (CompBio 2011), pp. 344-350, **2011**

45. Sajjadi M., **Amirfattahi R.**, Ahmadzadeh M. R., Saghafi M. A., "A New Filter Bank Algorithm for Enhancement of Early Signs of Ischemic Stroke in Brain CT Images", in Proceedings of IEEE International Conference on Signal and Image Processing Applications (ICSIPA 2011), pp. 384-389, **2011**

46. Moghadas S. M., Pourghasem H., **Amirfattahi R.**, "New Image Compression Algorithm _sing Proposed Quantization Approach", in Proceedings of 2011 International Conference on Pattern Analysis and Intelligent Robotics (ICPAIR 2011), pp. 8-12, **2011**

47. Hajimolahoseini H., **Amirfattahi R.**, Zekri M., "Real-time Classification of Persian Musical Dastgahs Using Artificial Neural Network", in Proceedings of the 16th CSI International Symposium on Artificial Intelligence and Signal Processing (AISP 2012), pp. 157-160, **2012**

48. Zamani HosseinAbadi H., **Amirfattahi R.**, Nazari B., Mirdamadi H. R., Atashipour S. A., "Damage detection by wavelet packet transform and multiclass SVM in structural health monitoring applications", in Proceedings of the 2nd International Conference on Acoustic and Vibration (ISAV 2012), **2012**

49. Zamani HosseinAbadi H., Nazari B., **Amirfattahi R.**, Mirdamadi H. R., Atashipour S. A., "De-noising and compression of SHM signals with wavelet transform", in Proceedings of the 2nd International Conference on Acoustic and Vibration (ISAV 2012), **2012**

50. Zeinali Zadeh M. M., Niketeghad S., **Amirfattahi R.**, "A PLL Based Adaptive Power Line Interference Filtering from ECG Signals", in Proceedings of the 16th CSI International Symposium on Artificial Intelligence and Signal Processing (AISP 2012), pp. 490-496, **2012**

51. Vahabi Z., **Amirfattahi R.**, "Medical Signals Communications For Mobile Healthcare Services", in Proceedings of the 6th IEEE International Conference on e-Commerce in Developing Countries with Focus on Insurance and Islamic Banking (ECDC 2012), pp. 1-15, **2012**

52. Nasr Azadani M., **Amirfattahi R.**, Pourghassem H., "A Novel Combination Method To Detect P300 Peak In Raw EEG Signal", in Proceedings of the 3rd National Conference on Electrical Engineering (NEEC 2012), **2012**

- 53.** Jafari Nedoushan F., Sadri S., **Amirfattahi R.**, "Automatic Heart Localization and Epicardial Segmentation in Cardiac MR Sequences Using Dynamics", in Proceedings of the 16th CSI International Symposium on Artificial Intelligence and Signal Processing (AISP 2012), **2012**
- 54.** Haghighatpanah N., **Amirfattahi R.**, Abootalebi V., Nazari B., "A two stage single trial P300 detection algorithm based on independent component analysis and wavelet transforms", in Proceedings of the 19th Iranian Conference on Biomedical Engineering (ICBME 2012), **2012**
- 55.** Salehi S. A., **Amirfattahi R.**, Parhi K. K., "Efficient Folded VLSI Architectures for Linear Prediction Error Filters", in Proceedings of the 22th IEEE International Conference on GLSVLSI (GLSVLSI 2012), **2012**
- 56.** Ahmadi P., Sadri S., **Amirfattahi R.**, Gheissari N., "Automatic Aerial Image Segmentation based on a Modified Chan-Vese Algorithm", in Proceedings of the 5th International Congress on Image and Signal Processing (CISP 2012), pp. 643-647, **2012**

Administrative Activities

1. Administrator of the 1st student seminar on Industrial Automation (7-8 November, 2005), Department of Electrical and Computer Engineering, Isfahan University of Technology
2. Vice president in student affairs, Department of Electrical and Computer Engineering, Isfahan University of technology, 2005-2010.
3. Director of digital signal processing research laboratory, Department of Electrical and Computer Engineering, Isfahan University of technology, 2005-present
4. Administrator of the 10th student conference on Electrical Engineering, Department of Electrical and Computer Engineering, Isfahan University of technology, September 2007.
5. Executive director of "Feedback", the scientific student journal of Electrical and Computer Engineering, Department of Electrical and Computer Engineering, Isfahan University of technology, 2005-2009.
6. Vice president for education affairs, Department of Electrical and Computer Engineering, Isfahan University of technology, 2013-present.

Scientific Association Membership

1. Member of Iranian society of Electrical and Electronics Engineers
2. Member of Iranian society of Biomedical Engineers
3. Member of Iranian society of iron and steel
4. Member of Iranian Society of Machine Vision and Image Processing