In the Name of God, the All-Merciful, Mercy-Giving

HOSSEIN PARSAEI

Assistant Professor and Associate Chair of Academic Affairs and Graduate Studies

Medical Physics & Biomedical Engineering Dept., School of Medicine, Shiraz University of Medical Sciences, Zand Blvd., Shiraz, Fars, IRAN. Phone/Fax: +98 71 32349332,

Email: hparsaei@sums.ac.ir; hparsaee@gmail.com

Academic Background

Sept.2011	**PhD, Systems Design Engineering (Discipline: Biomedical Engineering),** University of Waterloo, Waterloo, ON, Canada. Thesis title: "EMG Signal Decomposition using Motor Unit Potential Train Validation." Supervisor: Dr. Daniel W. Stashuk
Sept. 2002	**Master of Science, Biomedical Engineering (Discipline: Bioelectric),** Amirkabir University of Technology, Tehran, Iran. Thesis title: "Design and Fabrication of a Computerized Perimeter." Supervisor: Dr. Mohammad Hassan Moradi
Sept. 1999	**Bachelor of Science, Electronic Engineering**, Shiraz University, Shiraz, Iran. ***Rank: Top- 3 student***

Awards (>$120,000)

*Based on the policy of the University of Waterloo, the seven received awards that are indicated by an * are given to top students in each department or school.*

Sept.2009-Sept.2011	Graduate Research Studentship, Systems Design Engineering Department, University of Waterloo, Waterloo, ON, Canada.
Winter Term 2011*	Faculty of Engineering Graduate Scholarship, University of Waterloo, Waterloo, ON, Canada.
Jan.2011-Apr. 2011	MITACS Accelerate Internship Award, awarded by Canada's Graduate Research Internship Program.
May 2009-Apr. 2010*	Ontario Graduate Scholarship in Science and Technology (OGSST), awarded by the Government of Ontario.
May 2009-Apr. 2010*	OGSST - Systems Design Engineering, University of Waterloo, Waterloo, ON, Canada.
Spring Term 2010	Research Travel Assistantship, University of Waterloo, Waterloo, ON, Canada.
Winter Term 2010*	Graduate Students Scholarship, University of Waterloo, Waterloo, ON, Canada.
Fall Term 2009	Research Travel Assistantship, University of Waterloo, Waterloo, ON, Canada.
Winter Term 2009*	Graduate Students Scholarship, University of Waterloo, Waterloo, ON, Canada.
Winter Term 2009 *	Faculty of Engineering Graduate Scholarship, University of Waterloo, Waterloo, ON, Canada.
May 2007-Sept.2009	Research Assistantship, Systems Design Engineering Department University of Waterloo, Waterloo, ON, Canada.
May 2007-Dec. 2008	International Student Award, University of Waterloo, Waterloo, ON, Canada.
Winter Term 2008*	Graduate Students Scholarship, University of Waterloo, Waterloo, ON, Canada.

Publications (*65 Papers and technical reports in total*)

a) Journal Papers and Book Chapter

1. S.Amiri, M.M.Movahedi, K.Kazemi, H. Parsaei, "3D cerebral MR image segmentation using multiple-classifier system" Medical & Biological Engineering & Computing,2016 (in press).
2. M.Gofrani,H.Parsaei,A.Zamani, M. Dehbozorgi, "Comparative Analysis of Wavelet-based Feature Extraction for Intramuscular EMG Signal Decomposition", Journal of Biomedical Physics & Engineering, 2016 (in press).
3. H.Parsaei, A.Vakily, A.M. Shafiei, "A Wireless Electronic Esophageal Stethoscope for Continuous Monitoring of Cardiovascular and Respiratory Systems during Anaesthesia" Journal of Biomedical Physics & Engineering, 2016 (in press).
4. A.Vakily, H.Parsaei, M.M.Movahhedi, M.A.Sahmeddini, "A System for Continuous Estimating and Monitoring Cardiac Output via Arterial Waveform Analysis" Journal of Biomedical Physics & Engineering, 2016 (in press).
5. M. M. Movahedi, M. Hatam, H.Parsaei, and A.Tavakoli , "An Adjustable Extremely Low Frequency Electromagnetic Field Generator" Journal of Frontier in Biomedical Technologies,2(1), 297-303,2015.
6. T. Kamali, R. Boostani, and H. Parsaei, "A Multi Classifier Approach to MUAP Classification for Diagnosis of Neuromuscular Disorders," IEEE Trans Neural System Rehabilitation Engineering. 22 (1), 191-200, 2014.
7. With A. Haghnegahdar et al, "Design and Fabrication of Helmholtz Coils to Study the Effects of Pulsed Electromagnetic Fields on the Healing Process in Periodontitis: Preliminary Animal Results," Journal of Biomedical Physics & Engineering 4 (3), 83-90,2014.
8. T. Kamali, R. Boostani, and H. Parsaei, "A Hybrid Classifier for Characterizing Motor Unit Action Potentials in Diagnosing Neuromuscular Disorders," Journal of Biomedical Physics Engineering, 3(4), 145-154, 2013.
9. S. Amiri, M.M. Movahedi, K. Kazemi, H. Parsaei, "An Automated MR Image Segmentation System Using Multi-layer Perceptron Neural Network" Journal of Biomedical Physics Engineering, 3(4), 115-122, 2013.
10. H. Parsaei and D. W. Stashuk, "EMG Signal Decomposition using Motor Unit Potential Train Validity," IEEE Trans Neural System Rehabilitation Engineering, 21(2), 265 - 274, 2013.
11. H. Parsaei and D. W. Stashuk, "SVM-based Validation of Motor Unit Potential Trains Extracted by EMG Signal Decomposition," IEEE Trans Biomed Eng, 59(1), 183-193, 2012.
12. S. Shabani, H. Parsaei and A. Shaabany " Classification of EMG Signals using Empirical Mode Decomposition," International Journal of Computer Applications , vol. 56, no.18, pp. 23-28, October 2012.
13. H. Parsaei and D. W. Stashuk, "Motor Unit Potential Train Validation and Its Application in EMG Decomposition," in "*Applied Biological Engineering- principles and practice*", ISBN 979-953-307-397-1, 2012. (***This chapter has reached 1500 downloads, as revealed by the publisher in November 2012***).
14. H. Parsaei and D. W. Stashuk, "Adaptive Motor Unit Potential Train Validation Using MUP Shape Information," Med Eng Phys, 33(5), 581-589, 2011.
15. H. Parsaei, F. Jahanmiri Nezhad, D. W. Stashuk, and Andrew Hamilton-Wright "Validating Motor Unit Firing Patterns Extracted by EMG Signal Decomposition," Med Biol Eng Comput., 49(6), 649-658, 2011.
16. H. Parsaei, D. W. Stashuk, S. Rasheed, C. Farkas, and A. Hamilton-Wright, "Intramuscular EMG Signal Decomposition," Crit Rev Biomed Eng., 38(5), 435-465, 2010
17. C. Farkas, D. W. Stashuk, A. Hamilton-Wright, and H. Parsaei, "A Review of Clinical Quantitative Electromyography," Crit Rev Biomed Eng. 38(5), 467-485, 2010.

b) Technical Reports

1. H. Parsaei, "EMG Signal Decomposition using Motor Unit Potential Train Validation," PhD desertion, University of Waterloo, Waterloo, On, Canada, 2011.
2. H. Parsaei, "Design and Fabrication of a Computerized Perimeter," Master's thesis, Amirkabir University of Technology, Tehran, Iran, 2002.

c) Patent

1. A. Vakily, A.M. Shafiei, and H. Parsaei, "An Automatic Digital Single/Dual-cuff Surgical Tourniquet System" Iranian Patent
2. A. Vakily, A.M. Shafiei, and H. Parsaei "A Vein Finder with Vibration and Adjustable Arms" Iranian Patent.
3. R. Mirmasudi , H. Parsaei , et al , "An Electronic System for Recording and Printing Patient Number in Health Medical Centers", Iranian Patent.
4. A. Vakily, A.M. Shafiei, and H. Parsaei, " Digital Wireless Esophageal Stethoscope" Iranian Patent

d) Papers in Refereed Conferences

1. H.Parsaei, A.Vakily, M. M. Movahhedi, M. A.Sahmeddini, M.Rasaei, A. M.Shafiei, "Development a System for Monitoring Cardiac Output via Arterial Waveform Analysis", in 24th Iranian Conference on Electrical Engineering (ICEE 2016), May 10–12, 2016, Shiraz, Iran.
2. Y.Amir Moezi, T. Shaabaneyan, H .Parsaei, S. Amiri, "Feature selection for 3D MR Image segmentation using Supervised Classifiers" in 24th Iranian Conference on Electrical Engineering (ICEE 2016), May 10–12, 2016 Shiraz, Iran.
3. H.Parsaei, A.Vakily, A. M.Shafiei, "Design and fabrication of an Automatic Digital Single/Dual-cuff Surgical Tourniquet System" in 24th Iranian Conference on Electrical Engineering (ICEE 2016), May 10–12, 2016, Shiraz, Iran.
4. M.Karimpour, R.Sharifian, H.Parsaei, N. Shokrpour, "An Android –based EMG Analysis System to Evaluate Muscle Fatigue" In First International Congress on mHealth, 17-18 May 2015, Shiraz, Iran
5. J. A. Jones, N. Scheerer, H. Parsaei, "Feed forward and feedback mechanisms underlying speech motor control: The effect of hearing artificial fluctuations in one's vocal pitch during speech" Neuroscience 2012, October 13-17, 2012, New Orleans, USA.
6. H. Parsaei, D.W. Stashuk, and T. M. Adel , "Decomposition of Intramuscular EMG Signals Using a Knowledge –based Certainty Classifier Algorithm" In 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'12), August 28 -September 1, 2012, San Diego, California, USA.
7. H. Parsaei, M. J. Gangeh, D. W. Stashuk, A. Ghodsi, and M. S. Kamel, "Augmenting the Decomposition of EMG Signals Using Supervised Feature Extraction Techniques" In 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'12), August 28 -September 1, 2012, San Diego, California, USA.
8. A. Shafiei, H. Parsaei, and M. B. Dusseault, "Rock Squeezing Potential Prediction by a Learning Classifier System" In 46th US Rock Mechanics / Geomechanics Symposium, June 24-27, 2012, Chicago, IL, USA.
9. S. Kouchaki, R. Boostani, S. Shabani and H. Parsaei, "A new feature selection method for classification of EMG signals" IN 16th CSI International Symposium on Artificial Intelligence and Signal Processing (AISP), May 2-3, 2012 , CSE & IT Dept., Shiraz Univ., Shiraz, Iran.
10. H. Parsaei and D.W. Stashuk, "A Knowledge–based EMG Decomposition System," In: 2011 Symposium on Advanced Intelligent Systems (SAIS'11), December 1–2, 2011, Waterloo, ON, Canada.
11. Shafiei H. Parsaei, and M. B. Dusseault, "Predicting Rock Squeezing Potential with a Learning Classifier System," In: 2011 Symposium on Advanced Intelligent Systems (SAIS'11), December 1–2, 2011, Waterloo, ON, Canada.

12. H. Parsaei and D. W. Stashuk, “A Method for Detecting and Editing MUPTs Contaminated by False Classification Errors during EMG Signal Decomposition,” In: 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'11), August 30 -September 3, 2011, Boston, MA, USA.

13. H. Parsaei and D. W. Stashuk, “Automatic Validation of Motor Unit Potential Trains Extracted by EMG Signal Decomposition,” In: 24th IEEE Canadian Conference on Electrical and Computer Engineering, May 8-11, 2011, Niagara Falls, Canada.

14. H. Parsaei and D. W. Stashuk, “An SVM Classifier for Detecting Merged Motor Unit Potential Trains Extracted by EMG Signal Decomposition Using Their MUP Shape Information,” In: 24th IEEE Canadian Conference on Electrical and Computer Engineering, May 8-11, 2011, Niagara Falls, Canada.

15. H. Parsaei and D. W. Stashuk, “Detecting Merged Motor Unit Potential Trains Using MUP Shape Information,” In: XVIIIth Congress of International Society of Electrophysiology and Kinesiology (ISEK2010), Aalborg, Denmark, June 2010.

16. H. Parsaei and D. W. Stashuk, “Toward Automatic Validation of a Motor Unit Potential Train,” Presented in XVIIIth Congress of International Society of Electrophysiology and Kinesiology (ISEK2010), Aalborg, Denmark, June 2010.

17. H. Parsaei and D. W. Stashuk, “Identifying False Positive Errors in a MUPT Using both MUP Shape and MU Firing Pattern,” In: XVIIIth Congress of International Society of Electrophysiology and Kinesiology (ISEK2010), Aalborg, Denmark, June 2010.

18. H. Parsaei and D. W. Stashuk, “Evaluating a Motor Unit Potential Train Using Cluster Validation Methods,” In: 5th Canadian Student Conference on Biomedical Computing and Engineering (CSCBCE2010), Waterloo, ON, Canada, May 2010.

19. H. Parsaei, D. W. Stashuk, and R. Parsaei," Automatic Validation of a Motor Unit Potential Train Using MUP Shape Information," In:16th Iranian Conference on Biomedical engineering (ICBME), Tehran, Iran, December 2009.

20. H. Parsaei and D. W. Stashuk, “MUP Shape-based Validation of a Motor Unit Potential Train,” In: 31st Annual International IEEE EMBS Conference, Minnesota, USA, September 2009.

21. H. Parsaei, F. Jahanmiri Nezhad, D. W. Stashuk, and Andrew Hamilton-Wright, “Validation of Motor Unit Potential Trains Using Motor Unit Firing Pattern Information," In: 31st Annual International IEEE EMBS Conference, Minnesota, USA, September 2009

22. R. Parsaei, A. Fatehi, and H. Parsaei, “Mobile Robot Path Planning and Obstacle Avoidance in Unknown Environment with Fuzzy Obstacles,” In: 2th Joint Congress on Fuzzy and Intelligent Systems, Tehran, Iran, October 2008.

23. H. Parsaei, F. Jahanmiri Nezhad, D. W. Stashuk, and Andrew Hamilton-Wright “Development of an SVM Classifier for Detecting Merged Motor Unit Potential Trains,” In: XVIIth Congress of International Society of Electrophysiology and Kinesiology(ISEK2008), Niagara Falls, Ontario, Canada, June 2008.

24. H. Parsaei and D. W. Stashuk, “Estimation of Motor Unit Firing Pattern Statistics Using Automatic Kernel Density Estimation Algorithm,” In: Biomedical Imaging and Computer Vision (BICV) Symposium, University of Waterloo, Waterloo, Ontario, Canada, September 2007.

25. H. Parsaei, Mohammad. H. Moradi, and R. Parsaei, “Development and Verification of Artificial Neural Network Classifiers for Eye Diseases Diagnosis,” In: 14th Iranian Conference on Biomedical Engineering, Shahed University, Tehran, Iran, February 2008.

26. H. Parsaei, Mohammad. H. Moradi, and R. Boostani ,“Comparison of ECG Baseline Correction Methods,” In: 10th Iranian Conference of Biomedical Engineering, Tarbiat Moddares University of Tehran, Tehran, Iran, October 2001.

e) Non-refereed contributions

1. H. Parsaei, "Finding the Number of Clusters In a Data Set: A Review and Simulation Study," University of Waterloo, Waterloo, Ontario, Canada, April 2009 (course project).
2. H. Parsaei, "A Review and Simulation Study of Semi-parametric Probability Density Estimation Methods," University of Waterloo, Waterloo, Ontario, Canada, April 2009 (course project).
3. H. Parsaei, "EMG Signal Decomposition Based on Motor Unit Potential Train Validation," University of Waterloo, Waterloo, Ontario, Canada, December 2008 (Ph.D. research proposal).
4. H. Parsaei, "Removing Baseline Wandering Noise Form ECG signals: A Review and Comparison," University of Waterloo, Waterloo, Ontario, Canada, December 2007 (course project).
5. H. Parsaei, "Probability Density Estimation Using Support Vector Machines: A Review and Simulation Study," University of Waterloo, Waterloo, Ontario, Canada, December 2007(course project).
6. H. Parsaei, "A Review on Self Organizing Neural Networks," Amirkabir University of Technology, Tehran, Iran, January 2000 (course project).
7. H. Parsaei, "Perimetery Methods and Perimeters,"Amirkabir University of Technology, Tehran, Iran, September 2000 (Master's seminar).
8. H. Parsaei, "Studying Quantitative Aspects of Image Amplifiers: X-ray Images and the Methods of Improvement," Amirkabir University of Technology, Tehran, Iran, September 2000 (course project).
9. H. Parsaei, "A Review of Digital X-ray Radiography Systems," Amirkabir University of Technology, Tehran, Iran, September 2000 (course project).
10. H. Parsaei, "Recent Advances in Ultrasonic Imaging," Amirkabir University of Technology, Tehran, Iran, September 2000 (course project).
11. H. Parsaei, "Classified Vector Quantization of Medical Images," Amirkabir University of Technology, Tehran, Iran, September 2000 (course project).
12. H. Parsaei, "Recent Methods and Instruments for Diagnosing Epilepsy," Amirkabir University of Technology, Tehran, Iran, September 2000 (course project).
13. H. Parsaei, "ECG Baseline Correction Methods: A Review and Comparison," Amirkabir University of Technology, Tehran, Iran, September 2000 (course project).
14. H. Parsaei, "A Computer Model of Intracranial Dynamics and Its Application for Brain Tumors Diagnosing," Amirkabir University of Technology, Tehran, Iran, September 2000 (course project).
15. H. Parsaei, "Design and Fabrication of a Programmable Muscle Stimulator," Shiraz University, Shiraz, Iran, September 1999 (Design project).
16. H. Parsaei, "Design and Fabrication of an IC tester," Shiraz University, Shiraz, Iran, September 1997(Design project).

Presentations (*22 presentations and talks)*

1. EMG Signal Analysis and its Application in Rehabilitation (*invited*), School of Rehabilitation Sciences, Shiraz University of Medical Sciences, Shiraz Iran, September 2016.
2. Advancement in Biomedical Engineering (*invited*), Shiraz University of Medical Sciences, Shiraz Iran, September 2016.
3. Decomposition based Quantitative EMG (*invited*),Shahid Faghihi Hospital, Shiraz, Iran, January, 2015.
4. EMG Signal Analysis: Techniques and Applications, (*invited*) 4th Summer School on Interdisciplinary Sciences, Shiraz University, Shiraz, September, 2014.
5. EMG Signal Decomposition: Techniques and Applications,(*invited*) 3th Summer School on Interdisciplinary Sciences, Shiraz University, Shiraz, September, 2012.

6. A Knowledge–based EMG Decomposition System, 2011 Symposium on Advanced Intelligent Systems (SAIS'11), December 1–2, 2011, Waterloo, ON, Canada.
7. Predicting Rock Squeezing Potential with a Learning Classifier System, 2011 Symposium on Advanced Intelligent Systems (SAIS'11), December 1–2, 2011, Waterloo, ON, Canada.
8. EMG Signal Decomposition using Motor Unit Potential Validity, Systems Design Engineering Department, University of Waterloo, September 2011.
9. Automatic Validation of Motor Unit Potential Trains Extracted by EMG Signal Decomposition, 24th IEEE Canadian Conference on Electrical and Computer Engineering, May 8-11, 2011, Niagara Falls, Canada.
10. An SVM Classifier for Detecting Merged Motor Unit Potential Trains Extracted by EMG Signal Decomposition Using Their MUP Shape Information, 24th IEEE Canadian Conference on Electrical and Computer Engineering, May 8-11, 2011, Niagara Falls, Canada.
11. Detecting Merged Motor Unit Potential Trains Using MUP Shape Information, XVIIIth Congress of International Society of Electrophysiology and Kinesiology (ISEK2010), Aalborg, Denmark, June 2010.
12. Toward Automatic Validation of a Motor Unit Potential Train, XVIIIth Congress of International Society of Electrophysiology and Kinesiology (ISEK2010), Aalborg, Denmark, June 2010.
13. Identifying False Positive Errors in a MUPT Using both MUP Shape and MU Firing Pattern, XVIIIth Congress of International Society of Electrophysiology and Kinesiology (ISEK2010), Aalborg, Denmark, June 2010.
14. Clustering in Multiple Target Tracking, PAMI lab, Electrical and Computer Engineering Department, University of Waterloo, June 2010.
15. Finding the Number of Clusters in a Data Set: A Review and Simulation Study, PAMI lab, Electrical and Computer Engineering Department, University of Waterloo, June 2010.
16. Evaluating a Motor Unit Potential Train Using Cluster Validation Methods, 5th Canadian Student Conference on Biomedical Computing and Engineering (CSCBCE2010), Waterloo, ON, Canada, May 2010.
17. EMG Signal Decomposition Based on Motor Unit Potential Train Validation, Systems Design Engineering Department, University of Waterloo, January 2010.
18. Artificial Neural Networks in Biomedical Engineering, Systems Design Engineering Department, University of Waterloo, March 2009.
19. MUP Shape-based Validation of a Motor Unit Potential Train," In: 31st Annual International IEEE EMBS Conference, Minnesota, USA, September 2009.
20. Validation of Motor Unit Potential Trains Using Motor Unit Firing Pattern Information, In: 31st Annual International IEEE EMBS Conference, Minnesota, USA, September 2009
21. Development of an SVM Classifier for Detecting Merged Motor Unit Potential Trains, XVIIth Congress of International Society of Electrophysiology and Kinesiology(ISEK2008), Niagara Falls, Ontario, Canada, June 2008.
22. ESTIMATION of Motor Unit Firing Pattern Statistics Using Automatic Kernel Density Estimation Algorithm, Biomedical Imaging and Computer Vision (BICV) Symposium, University of Waterloo, Waterloo, Ontario, Canada, September 2007.
23. Comparison of ECG Baseline Correction Methods, 10th Iranian Conference of Biomedical Engineering, Tarbiat Moddares University of Tehran, Tehran, Iran, October 2001.
24. Perimetery Methods and Perimeters, Amirkabir University of Technology, Tehran, Iran, September 2000.

Teaching and Industrial Experiences (~18 years Teaching/research/industry experience)

Sept 2012-Till now	Assistant Professor, Medical Physics & Biomedical Engineering Dept., Medical School Shiraz University of Medical Sciences, Shiraz, Iran
May 2007-Apr. 2012	Instructor/ Research Assistant/Teaching Assistant, Systems Design Engineering Department, University of Waterloo, Waterloo, ON, Canada.
May 2011-Apr. 2012	Research Associate, Cognitive Neuroscience of Communication Lab., Wilfrid Laurier University, Waterloo, ON, Canada.
Dec.2010-Mar. 2011	Internship, Balute Inc., Waterloo, ON, Canada.
Nov.2003–Jan. 2006	Supervisor of Electrical and Electronic Department, Rah e Sahel Co. (Khatam al-Anbia), Southern Pars, Asalouyeh, Iran.
Sept. 2002-Nov. 2003	Biomedical Engineer, Afzar Pezeshk Co., Tehran, Iran.
Aug. 2000-Sept. 2002	Electrical and Biomedical Engineer, Javaheri Hospital (Islamic Azad University, Tehran Medical Branch), Tehran, Iran.
Sept. 1999-June 2000	Teaching Assistant, Electrical Engineering Department, Shiraz University, Shiraz, Iran.
Jul. 1998-Aug. 2000	Electronic engineer, Electrical and Communication Jahantab Co., Shiraz, Iran.

Teaching

Taught and introduced grad and undergrad level courses on the following subjects:

- **Graduate**
  - Pattern Recognition
  - Artificial Intelligence for Biomedical Engineering
  - Biomedical Signal Processing
  - Medical Imagining
  - Medical Image Processing
  - Bioinstrumentation
  - Clinical Engineering Laboratory
  - Application of Computers in Medicine
  - Mathematical and Computer Modeling of physiological Systems
  - Seminar
- **Undergraduate**
  - Medical Equipments
  - Physics and Anaesthesia
  - Basic Physics & Instrument of Diagnostic Ultrasound
  - Introduction to Physics, Electricity and Robotics in Operating Room
  - Introduction to Physics for Life Sciences
  - Physics Mechanic
  - Physical Medicine and Rehabilitation
  - Mathematics for Pharmacy Students

Supervision/Cosupervision

- Completed: 17 M.A.Sc. Students
- Currently: 5 M.A.Sc. Students.

Professional Activities

- **Society Membership:**
  - Editorial board of Journal of Biomedical Physics Engineering
  - Editorial board of Journal of Advances in Automobile Engineering.
  - Member of the Institute of Electrical and Electronics Engineers (IEEE).
  - Member of the IEEE Engineering Medicine and Biology Society (EMBS).
  - Member of UW Center for Pattern Analysis and Machine Intelligence (CPAMI).

- **Manuscript Review:**
  - I have reviewed > 150 manuscripts for: 1) IEEE transactions on biomedical engineering; 2) IEEE Transactions on Neural Systems and Rehabilitation Engineering; 3) Journal of medical & Biological engineering & computing; 4) Journal of signal, image and video processing; 5) Journal of Biomedical Physics and Engineering; 6) Iranian Journal of Science & Technology, Transactions of Electrical Engineering; 7) Journal of recent patents on engineering; 8) IEEE-EMBC 2013, IEE-EMBC 2012; 9) 24th IEEE Canadian conference on electrical and computer engineering; 10) International conference on communication systems and network technologies; 11) International conference on information sciences, signal processing and their applications; 12) International conference on computational intelligence and communication networks; and 13) 23rd Iranian Conference on Electrical Engineering (ICEE 2015).

- **Professional Workshops Presented/Attended:**
  - Statistics using MATLAB, the School of Chemical and Petroleum Engineering,Shiraz University, May 2016.
  - Statistics using MATLAB, the School of Chemical and Petroleum Engineering,Shiraz University, May 2015.
  - EMG Signal Analysis: Techniques and Applications, 4th Summer School on Interdisciplinary Sciences, Shiraz University, Shiraz, September, 2014.
  - EMG Signal Decomposition: Techniques and Applications, 3th Summer School on Interdisciplinary Sciences, Shiraz University, Shiraz, September, 2012.
  - Efficient Programming using Matlab, presented by Mathworks.
  - Parallel Programming in Matab, presented by Mathworks.
  - High Density Surface EMG, Presented by R. Merletti et al., Alborg, Denmark, June 2010.
  - Introduction to EMG Decomposition, Presented by K. McGill et al. Alborg, Denmark, June 2010.
  - Introduction to EMG Decomposition, Presented by K. McGill et al. Niagara Falls, Canada, June 2008.

- **Teaching Related Workshops Presented /Attended**
    - ExpectTAtion, University of Waterloo, Canada, August 28-29, 2011 (acted as student mentor for this workshop).
    - ExpectTAtion, University of Waterloo, Canada, September 6-7, 2009 (acted as faculty mentor for this workshop).
    - Dealing with Classroom Disruptions, Presented by Center of Teaching Excellence, University of Waterloo, Canada.
    - So-You Want to be a Faculty Member? Presented by Prof. D. Clausi and Center of Teaching Excellence, University of Waterloo, Canada.
    - How to be an effective TA? CTE Workshop, Presented by Center of Teaching Excellence, University of Waterloo, Canada.
    - ExpectTAtion, University of Waterloo, Canada, September 6-7, 2007.

Research and Teaching Interests

- **Research Interests**:

My research interest is mainly biomedical engineering. I am interested in bioinstrumentation, biomedical signal processing, medical image processing, medical imagining, and application of pattern recognition and machine learning in biomedical engineering.

- **Teaching Interests:**

My current teaching interests are in five areas: biomedical engineering, electronic engineering, computer engineering, data analysis, pattern recognition, and machine learning.