ROOZBEH JAFARI

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Research Interests

Embedded System Design and Signal Processing

- Wearable computing, wireless and mobile health
- Biomedical circuits and systems
- Mobile computing, Internet of things (IoT)
- Signal processing for wearable and mobile sensors
- Cyber physical systems
- Power and performance optimization techniques for wearable and mobile computers

Embedded Signal Processing Lab (ESP), Role: Director
http://jafari.tamu.edu

Highlights

Research
- Established leadership in the area of wearables computer design and signal processing.
- Developed extensive multi-disciplinary collaboration with medical schools and non-engineering researchers.

Teaching
- Developed classes and tutorials on Embedded Systems for Medical Applications offered to several engineering majors including BME, ECE and CSE (includes extensive lectures and lab experiments).

Service
- Served as a regular/standing member for several funding agencies including US NSF and NIH.
- General chair/technical program chair of several flagship conferences in the area of wearable computers
- Served on the editorial board of several major journal/transactions.
- Served on key University committees to promote multi-disciplinary teaching and research

Academic Appointments

Associate Professor, 2015-present
TEXAS A&M UNIVERSITY, College Station, TX
Biomedical Engineering
Computer Science and Engineering
Electrical and Computer Engineering

Associate Professor, 2013-2015
UNIVERSITY OF TEXAS at Dallas, TX
Electrical Engineering

Assistant Professor, 2007-2013
UNIVERSITY OF TEXAS at Dallas, TX
Electrical Engineering

Academic Preparation

Post-doctoral Fellowship 2006-2007
UNIVERSITY OF CALIFORNIA, Berkeley, CA
Electrical Engineering and Computer Science, Adviser: Professor Ruzena Bajcsy

Ph.D. in Computer Science, 2006
UNIVERSITY OF CALIFORNIA, Los Angeles, CA
Computer Science, Adviser: Professor Majid Sarrafzadeh

M.S. in Computer Science, 2004
UNIVERSITY OF CALIFORNIA, Los Angeles, CA
Computer Science

M.S. in Electrical Engineering, 2002	STATE UNIVERSITY OF NEW YORK, Buffalo, NY Electrical Engineering
B.S. in Electrical Engineering, 2000	SHARIF UNIVERSITY OF TECHNOLOGY, Tehran, IRAN Electrical Engineering

Honors and Awards

- William O. and Montine P. Head Memorial Research Award for Outstanding Eng. Contribution, Texas A&M, 2019
- Standing member of the NIH Biomedical Computing and Health Informatics (BCHI) study section, 2017-2021
- Federal Communications Commission (FCC) Chairman's Award for Advancement in Accessibility, 2016
- Andrew P. Sage Best Transactions Paper Award from IEEE Systems, Man and Cybernetics Society, 2014
- NSF CAREER Award, 2012
- Junior Faculty Research Award, School of Engineering and Computer Science, UT-Dallas, 2012
- Best Paper Award, IEEE Real-Time & Embedded Technology & Applications Symp (RTAS), 2011
- Best Teaching Assistant Award, Computer Science Department, UCLA, 2005-2006
- Graduate Division Fellowship, UCLA, 2002-2003
- Honored in National Computer Olympiad, Iran (among 80 students selected nationwide), 1994 and 1995

Active Projects

National Institute of Health, $1,200,000, 9/18-8/22, Role: PI
A Context-aware Cuff-less Wearable Ambulatory Blood Pressure Monitor using a Bio-Impedance Sensor Array

National Science Foundation, $19,750,000, 9/17-8/22, Role: co-PI (PI: G. L. Coté)
Engineering Research Center (ERC): Precise Advanced Technologies and Health Systems for Underserved Populations (PATHS-UP)

National Science Foundation, $300,000, 9/17-8/20, Role: PI
Design of Motion-Artifact Robust Electronic Tattoos and Software Reconfiguration Methodologies for Bio-impedance Sensing

National Science Foundation, $360,000, 8/15-8/20, Role: PI
Ultra-Low Power Inertial MEMS for Pervasive Wearable Computing

Texas Instruments, $25,000, 9/15-9/20, Role: PI
Gesture Recognition using Wrist-worn EMG and Motion Sensors

National Science Foundation (NSF), $400,000 (+$48K REU), 2/12-1/20, Role: PI
CAREER: Ultra Low Power Architectures for Wearable Computing

Externally Funded Projects

Funding raised as PI or co-PI: $54,473,274
Funding raised as PI: $5,723,641
Funding directed to Jafari's lab: $6,142,073

P28. National Institute of Health, $1,200,000, 9/18-8/22, Role: PI
A Context-aware Cuff-less Wearable Ambulatory Blood Pressure Monitor using a Bio-Impedance Sensor Array

P27. National Science Foundation, $19,970, 12/17-11/18, Role: co-PI (PI: J. Mortazavi)
Student-Author Travel Grant for the International Conferences on Biomedical and Health Informatics and on Wearable and Implantable Body Sensor Networks 2018

P26. National Science Foundation, $19,750,000, 9/17-8/22, Role: co-PI (PI: G. L. Coté)
Engineering Research Center (ERC): Precise Advanced Technologies and Health Systems for Underserved Populations (PATHS-UP)

P25. National Science Foundation, $300,000, 9/17-8/20, Role: PI
Design of Motion-Artifact Robust Electronic Tattoos and Software Reconfiguration Methodologies for Bio-impedance Sensing

P24. UT-Brain Initiative $100,000, 8/15-7/17, Role: co-PI
A Big Data Analysis of Raw Sensor Data from Gait and Balance Testing to Develop a Clinical Biomarker for Parkinson Disease

P23. National Science Foundation, $360,000, 8/15-7/20, Role: PI
Ultra-Low Power Inertial MEMS for Pervasive Wearable Computing

P22. Texas Instruments, $25,000, 9/15-9/20, Role: PI
Gesture Recognition using Wrist-worn EMG and Motion Sensors

P21. Texas Collaborative Research Funding Prog. in Medical Tech., $100,000, 6/14-6/15, Role: PI
EE-BioWatch: A Wrist-Worn Device for Energy Expenditure Monitoring

P20. Texas Collaborative Research Funding Prog. in Medical Tech., $100,000, 6/13-6/14, Role: PI
Wrist-based Non-Invasive Wearable Sensors for Cont. Blood Pressure Monitoring using Pulse Transit Time

P19. National Science Foundation (NSF), $50,000, 6/13-10/14, Role: PI
Self-Calibration Techniques for Robust Brain Computer Interface

P18. DARPA and SRC, $1,278,333, 1/13-1/18, Role: site-PI (PI: E. A. Lee, Berkeley, $27.5M)
The TerraSwarm Research Center (TSRC)

P17. Samsung Telecommunications America, $150,000, 10/12-2/14, Role: PI
Adaptive Signal Processing and Training Methods for Brain Computer Interface

P16. National Science Foundation (NSF), $18,250, 2/13-1/14, Role: PI
Mentorship and Student-Author Travel Grant for Wireless Health 2012 Conference

P15. Texas Instruments, $153,000, 8/12-7/13, Role: PI
Wearable Physiological Monitoring Platforms

P14. Texas Instruments, $25,000, 4/12-3/13, Role: PI
Wireless Electroencephalography

P13. National Science Foundation (NSF), $400,000 (+$48K REU), 2/12-1/20, Role: PI
CAREER: Ultra Low Power Architectures for Wearable Computing

P12. Semiconductor Research Corporation (SRC), $422,913, 2/12-2/15, Role: PI
Non-Contact & Dry-Contact Reconfigurable Electroencephalography

P11. Texas Instruments/Texas Health Resources, $100,000, 1/12-1/13, Role: co-PI
Fall Prevention through Retraining Sensory Weighting using a Virtual Env. and Vibrotactile Biofeedback

P10. National Institute of Health (NIH), $366,746, 9/11-8/17, Role: PI
Using Gait and Sway Biofeedback to Reduce Falls in the Elderly

P9. Department of Defense (TATRC), $94,848, 8/11-8/12, Role: PI
Enhancing Soldier Performance and Brain Repair Using Virtual Reality Hapto-Robotic Training

P8. NSF IUCRC/Tektronix, $50,000, 8/11-8/12, Role: PI
FPGA based Network Processor for 40 Gbps Routers

P7. National Science Foundation (NSF), $52,551, 8/11-7/13, Role: PI
Methodologies for Tight Integration of Physical and Cyber Models in Power Aware Wearable Computers

P6. Air Force Research Lab (AFRL), $50,000, 4/11-4/12, Role: subcontract-PI
Ultra Low Power Electronics for Autonomous Micro-Sensor Applications

P5. National Science Foundation (NSF), $2,541,996, 10/10-9/18, Role: co-PI (PI: B. Prabhakaran)
NetSE: Large: Collaborative Research: Exploiting Multi-modality for Tele-Immersion

P4. Telecom Italia, $50,000, 8/10-8/12, Role: PI
SPINE: Signal Processing in Node Environment

P3. Semiconductor Research Corporation (SRC), $195,000, 1/10-12/12, Role: PI
A Smart Analog-enabled pre-Conditioning Stage for Inertial Sensing Applications

P2. Texas Health Resources/Texas Instruments, $100,000, 1/10-2/12, Role: PI
WAIMS: Wireless Automated Inpatient Monitoring System

P1. Air Force Office of Scientific Research (AFOSR), $150,000, 10/06-9/08, Role: co-PI
Electronic Textile Sensors for Stress Measurement in Soldiers

Publications

Book Chapters

BC7. Vitali Loseu, Jian Wu, Roozbeh Jafari, Mining Techniques for Body Sensor Network Data Repository, Edited by Edward Sazonov and Micheal Neuman, Wearable Sensors: Fundamentals, Implementation and Applications, Elsevier, 2014, ISBN 9780124186620.

BC6. Hassan Ghasemzadeh, Roozbeh Jafari, Power-Aware Communication in Body Area Networks, In Ambient Assisted Living: From Technology to Intervention, Edited by Nuno M. Garcia, Joel Rodrigues, Miguel Sales Dias, and Dirk Elias, Taylor and Francis/CRC Press, 2014, ISBN 9781439869840.

BC5. Hassan Ghasemzadeh, Roozbeh Jafari, Decision Tree Construction for Event Classification in Building Sensor Networks: From Design to Applications, Edited by Kris Iniewski, CRC Press, 2013, ISBN: 978-1-4665-6272-1.

BC4. Roozbeh Jafari, Hassan Ghasemzadeh, Eric Guenterberg, Vitali Loseu, Sarah Ostadabas, Human Bio-Kinematic Monitoring with Body Area Networks, In Wireless Body Area Networks: Technology, Implementation and Applications, Edited by Mehmet R. Yuce and Jamil Y. Khan, Pan Stanford Publishing, 2011, ISBN: 9789814316712.

BC3. Hassan Ghasemzadeh, Eric Guenterberg, Roozbeh Jafari, Lightweight Signal Processing for Wearable Body Sensor Networks, In Wearable Monitoring Systems, Edited by Annalisa Bonfiglio and Danilo D. Rossi, Springer, 2010, ISBN: 1441973834.

BC2. Tammara Massey, Foad Dabiri, Hyduke Noshadi, Philip Brisk, Roozbeh Jafari, Majid Sarrafzadeh, Reconfigurable Embedded Medical Systems, In Handbook of Research on Distributed Medical Informatics and E-Health, Edited by Antonio Coronato and Giuseppe De Pietro, IGI Global, 2008, ISBN: 1605660027.

BC1. Foad Dabiri, Roozbeh Jafari, Ani Nahapetian, Majid Sarrafzadeh, Light-weight Embedded Systems, In Computer Engineering Handbook, Edited by Vojin Oklobdzija, Taylor & Francis/CRC Press, 2008, ISBN: 0849386020.

Journal Papers

J43. Viswam Nathan, Roozbeh Jafari, Particle Filtering and Sensor Fusion for Robust Heart Rate Monitoring using Wearable Sensors, IEEE Journal of Biomedical and Health Informatics (J-BHI), vol. 22, issue 6, pp. 1834-1846, November 2018.

J42. Viswam Nathan, Sudip Paul, Temiloluwa Prioleau, Li Niu, Bobak J. Mortazavi, Stephen A. Cambone, Ashok Veeraraghavan, Ashutosh Sabharwal, Roozbeh Jafari, A Survey on Smart Homes for Aging in Place, IEEE Signal Processing Magazine (SPM), vol. 35, issue 5, pp. 111:119, September 2018.

J41. Toan Huu Huynh, Roozbeh Jafari, Wan-Young Chung, Noninvasive Cuffless Blood Pressure Estimation Using Pulse Transit Time and Impedance Plethysmography, IEEE Transactions on Biomedical Engineering (TBME), August 2018.

J40. Jian Wu, Roozbeh Jafari, Orientation Independent Activity/Gesture Recognition Using Wearable Motion Sensors, IEEE Internet of Things Journal (IoT), July 2018.

J39. Toan Huu Huynh, Roozbeh Jafari, Wan-Young Chung, An Accurate Bioimpedance Measurement System for Blood Pressure Monitoring, Sensors, vol. 18, issue 7, June 2018.

J38. Jian Wu, Roozbeh Jafari, Seamless Vision-assisted Placement Calibration for Wearable Inertial sensors, ACM Transactions on Embedded Computing Systems (TECS), vol. 16, issue 3, pp. 71:1-71:22, July 2017.

J37. Terrell R. Bennett, Nicholas Gans, Roozbeh Jafari, Data-Driven Synchronization for Internet-of-Things Systems, ACM Transactions on Embedded Computing Systems (TECS), vol. 16, issue 3, pp. 69:1-69:24, July 2017.

J36. Chen Chen, Roozbeh Jafari, Nasser Kehtarnavaz, A Survey of Depth and Inertial Sensor Fusion for Human Action Recognition, Multimedia Tools and Applications, vol. 76, issue 3, pp. 4405-4425, February 2017.

J35. Jian Wu, Lu Sun, Roozbeh Jafari, A Wearable System for Recognizing American Sign Language in Real-time Using IMU and Surface EMG Sensors, IEEE Journal of Biomedical and Health Informatics (J-BHI), vol. 20, no. 5, pp. 1281-1290, September 2016.

J34. Simi Susan Thomas, Viswam Nathan, Chengzhi Zong, Karthikeyan Soundarapandian, Xiangrong Shi, Roozbeh Jafari, BioWatch: A Non-invasive Wrist-based Blood Pressure Monitor that Incorporates Training Techniques for Posture and Subject Variability, IEEE Journal of Biomedical and Health Informatics (J-BHI), vol.20, no.5, pp. 1291-1300, September 2016.

J33. Hassan Ghasemzadeh, Ramin Fallahzadeh, Roozbeh Jafari, A Hardware-Assisted Energy-Efficient Processing Model for Activity Recognition using Wearables, ACM Transactions on Design Automation of Electronic Systems (TODAES), vol. 21, issue 4, no. 58, September 2016.maga

J32. Terrell Bennett, Hunter Massey, Jian Wu, Syed Ali Hasnain, Roozbeh Jafari, MotionSynthesis Toolset (MoST): An Open Source Tool and Dataset for Human Motion Data Synthesis and Validation, IEEE Sensors Journal (SENSORS), vol. 16, no. 13, pp. 5365-5375, July 2016.

J31. Terrell R. Bennett, Jian Wu, Nasser Kehtarnavaz, Roozbeh Jafari, Inertial Measurement Unit-Based Wearable Computers for Assisted Living Applications: A signal processing perspective, IEEE Signal Processing Magazine (SPM), vol. 33, issue 2, March 2016.

J30. Chen Chen, Roozbeh Jafari, Nasser Kehtarnavaz, A Real-Time Human Action Recognition System Using Depth and Inertial Sensor Fusion, IEEE Sensors Journal (SENSORS), vol. 16, no. 3, pp. 773-781, February 2016.

J29. Yuan Zou, Viswam Nathan, Roozbeh Jafari, Automatic Identification of Artifact-related Independent Components for Artifact Removal in EEG Recordings, IEEE Journal of Biomedical and Health Informatics (J-BHI), vol.20, no.1, pp. 73-81, January 2016

J28. Viswam Nathan, Roozbeh Jafari, Design Principles and Dynamic Front End Reconfiguration for Low Noise EEG Acquisition with Finger Based Dry Electrodes, IEEE Transactions on Biomedical Circuits and Systems (T-BioCAS), vol. 9, no. 5, pp. 631-640, October 2015.

J27. Chen Chen, Roozbeh Jafari, Nasser Kehtarnavaz, Improving Human Action Recognition Using Fusion of Depth Camera and Inertial Sensors, IEEE Transactions on Human-Machine Systems (THMS), vol.45, no.1, pp. 51-61, February 2015.

J26. Bobak Mortazavi, Hassan Ghasemzadeh, Roozbeh Jafari, Christian K. Roberts, Majid Sarrafzadeh, Context-Aware Data Processing to Enhance Quality of Measurements in Wireless Health Systems: An Application to MET Calculation of Exergaming Actions, IEEE Internet of Things Journal (IoT), vol.2, no.1, pp. 84-93, February 2015.

J24. Kui Liu, Chen Chen, Nasser Kehtarnavaz, Roozbeh Jafari, Fusion of Inertial and Depth Sensor Data for Robust Hand Gesture Recognition, IEEE Sensors Journal (SJ), vol. 14, no. 6, pp 1898-1903, June 2014.

J23. Edward A. Lee, Jan Rabaey, David Blaauw, Prabal Dutta, Kevin Fu, Carlos Guestrin, Bjorn Hartmann, Roozbeh Jafari, Doug Jones, John Kubiatowicz, Vijay Kumar, Rahul Mangharam, Richard Murray, George Pappas, Kris Pister, Anthony Rowe, Alberto Sangiovanni-Vincentelli, Sanjit A. Seshia, Tajana Simunic Rosing, Ben Taskar, John Wawrzynek, David Wessel, The Swarm at the Edge of the Cloud, IEEE Design and Test (D&T), vol. 31, no. 3, pp 8-20, June 2014.

J22. Hassan Ghasemzadeh, Roozbeh Jafari, Ultra Low Power Signal Processing in Wearable Monitoring Systems: A Tiered Screening Architecture with Optimal Bit Resolution, ACM Transactions in Embedded Computing Systems (TECS), vol. 13, issue 1, no. 9, August 2013.

J21. Giancarlo Fortino, Roberta Giannantonio, Raffaele Gravina, Philip Kuryloski, Roozbeh Jafari, Enabling Effective Programming and Flexible Management of Efficient Body Sensor Network Applications, IEEE Transactions on Systems, Man, and Cybernetics--Part C: Applications and Reviews (TSMC), vol. 43, no. 1, pp 115-133, January 2013. **(Recipient of the 2014 Andrew P. Sage Best Paper Award)**

J20. Eric Guenterberg, Hassan Ghasemzadeh, Roozbeh Jafari, Automatic Segmentation and Recognition in Body Sensor Networks Using a Hidden Markov Model, ACM Transactions on Embedded Computing Systems (TECS), vol. 11, no. S2, pp 46:1-46:19, August 2012.

J19. Nikhil Raveendranathan, Stefano Galzarano, Vitali Loseu, Raffaele Gravina, Roberta Giannantonio, Marco Sgroi, Roozbeh Jafari, Giancarlo Fortino, From Modeling to Implementation of Virtual Sensors in Body Sensor Networks, IEEE Sensors Journal (SENSORS), vol 12, no. 3, pp. 583-593, March 2012.

J18. Vitali Loseu, Hassan Ghasemzadeh, Roozbeh Jafari, A Mining Technique Using N-grams and Motion Transcripts for Body Sensor Network Data Repository, Proceedings of the IEEE (PrIEEE), vol. 100, no. 1, pp 107-121, January 2012.

J17. Hassan Ghasemzadeh, Roozbeh Jafari, Coordination Analysis of Human Movements with Body Sensor Networks: A Signal Processing Model to Evaluate Baseball Swings, IEEE Sensors Journal Special Issue on Cognitive Sensor Networks (SJ), vol. 11, no. 3, pp 603-610, March 2011.

J16. Hassan Ghasemzadeh, Roozbeh Jafari, Physical Movement Monitoring using Body Sensor Networks: A Phonological Approach to Construct Spatial Decision Trees, IEEE Transactions on Industrial Informatics (TII), vol. 7, no. 1, pp 66-77, February 2011.

J15. Hassan Ghasemzadeh, Vitali Loseu, Roozbeh Jafari, Burst Communication by Means of Buffer Allocation in Body Sensor Networks: Exploiting Signal Processing to Reduce the Number of Transmissions, accepted for publication in IEEE Journal on Selected Areas in Communications Special Issue on Simple Wireless Sensor Networking Solutions (JSAC), vol. 28, no. 7, September 2010.

J14. Hassan Ghasemzadeh, Vitali Loseu, Roozbeh Jafari, Structural Action Recognition in Body Sensor Networks: Distributed Classification Based on String Matching, IEEE Transactions on Information Technology in BioMedicine Special Issue on Personal Health Systems (TITB), vol. 14, no. 2, pp 425-435, March 2010.

J13. Hassan Ghasemzadeh, Roozbeh Jafari, Balakrishnan Prabhakaran, A Body Sensor Network with Electromyogram and Inertial Sensors: Multi-Modal Interpretation of Muscular Activities, accepted for publication in IEEE Transactions on Information Technology in BioMedicine Special Issue on Affective and Pervasive Computing for Healthcare (TITB), vol. 14, no. 2, pp 198-206, March 2010.

J12. Eric Guenterberg, Allen Y. Yang, Hassan Ghasemzadeh, Roozbeh Jafari, Ruzena Bajcsy, S. Shankar Sastry, A Method for Extracting Temporal Parameters Based on Hidden Markov Models in Body Sensor Networks with Inertial Sensors, accepted for publication in IEEE Transactions on Information Technology in BioMedicine Special Issue on Wireless Health (TITB), vol. 13, no. 6, pp 1019-1030, November 2009.

J11. Roozbeh Jafari, Hassan Ghasemzadeh, Foad Dabiri, Ani Nahapetian, Majid Sarrafzadeh, An Efficient Placement and Routing Technique for Fault-tolerant Distributed Embedded Computing, ACM Transactions on Embedded Computing Systems (TECS), vol. 8, no. 4, pp 1-26, July 2009.

J10. Hassan Ghasemzadeh, Vitali Loseu, Roozbeh Jafari, Wearable Coach for Sport Training: A Quantitative Model to Evaluate Wrist-Rotation in Golf, Journal of Ambient Intelligence and Smart Environments Special Issue on Wearable Sensors (JAISE), vol. 1, no. 2, pp 173-184, April 2009.

J9. Allen Yang, Roozbeh Jafari, S. Shankar Sastry, Ruzena Bajcsy, Distributed Recognition of Human Actions Using Wearable Motion Sensor Networks, Journal of Ambient Intelligence and Smart Environments Special Issue on Wearable Sensors (JAISE), vol. 1, no. 2, pp 103-115, April 2009.

J8. Hassan Ghasemzadeh, Eric Guenterberg, Roozbeh Jafari, Energy-Efficient Information-Driven Coverage for Physical Movement Monitoring in Body Sensor Networks, IEEE Journal on Selected Areas in Communications Special Issue on Body Area Networks (JSAC), vol. 27, no. 1, pp 58-69, January 2009.

J7. Robert LeMoyne, Roozbeh Jafari, Foad Dabiri, Quantified Deep Tendon Reflex Device: Second Generation, Journal of Mechanics in Medicine and Biology, vol. 8, no. 1, pp 75-85, March 2008.

J6. Soheil Ghiasi, Elaheh Bozorgzadeh, Po-kuan Huang, Roozbeh Jafari, Majid Sarrafzadeh, A Unified Theory of Timing Budget Management, IEEE Transactions on Computer Aided Design (TCAD), vol. 25, no. 11, pp 2364-2375, November 2006.

J5. Roozbeh Jafari, Hyduke Noshadi, Soheil Ghiasi, Majid Sarrafzadeh, Adaptive Electrocardiogram Feature Extraction on Distributed Embedded Systems, IEEE Transactions on Parallel and Distributed Systems special issue on High Performance Computational Biology (TPDS), vol. 17, no. 8, pp 1-11, August 2006.

J4. Soheil Ghiasi, Po-kuan Huang, Roozbeh Jafari, Probabilistic Delay Budgeting for Soft Realtime Applications, IEEE Transactions on VLSI (TVLSI), vol. 14, no. 8, pp 843-953, August 2006.

J3. Philip Brisk, Foad Dabiri, Roozbeh Jafari, Majid Sarrafzadeh, Optimal Register Sharing for CFG Synthesis in SSA Form, IEEE Transactions on CAD (TCAD), vol. 25, no. 5, pp 772-779, May 2006.

J2. Roozbeh Jafari, Foad Dabiri, Majid Sarrafzadeh, ε-Optimal Minimal-Skew Battery Lifetime Routing in Distributed Embedded Systems, Journal of Low Power Electronics (JOLPE), vol. 1, no. 2, pp 97-107, September 2005.

J1. Roozbeh Jafari, Henry Fan, Majid Sarrafzadeh, Micro-Sequencer Approach Speeds Reconfiguration, Computers Off-The Shelf (COTS) Journal, vol. 5, no. 6, pp 49-55, June 2003.

Conference and Workshop Papers

C115. Ayca Aygun, Roozbeh Jafari, Robust Heart Rate Variability and Interbeat Interval Detection Algorithm in the Presence of Motion Artifacts, IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI), May 19-22, 2019, Chicago, IL, USA.

C114. Ali Akbari, Roozbeh Jafari, A Deep Learning Assisted Method for Measuring Uncertainty in Activity Recognition with Wearable Sensors, IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI), May 19-22, 2019, Chicago, IL, USA.

C113. Ali Akbari, Roozbeh Jafari, An Autoencoder-based Approach for Recognizing Null Class in Activities of Daily Living In-the-wild via Wearable Motion Sensors, IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), May 12-17, 2019, Brighton, UK.

C112. Ali Akbari, Roozbeh Jafari, Transferring Activity Recognition Models for New Wearable Sensors with Deep Generative Domain Adaptation, ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN), April 16-18, 2019, Montreal, Canada.

C111. Roger Solis, Arash Pakbin, Ali Akbari, Bobak J. Mortazavi, Roozbeh Jafari, A Human-centered Wearable Sensing Platform with Intelligent Automated Data Annotation Capabilities, ACM/IEEE International Conference on Internet of Things Design and Implementation (IoTDI), April 16-18, 2019, Montreal, Canada.

C110. Ali Akbari, Peiming Liu, Bobak J. Mortazavi, Roozbeh Jafari, Tagging Wearable Accelerometers in Camera Frames through Information Translation between Vision Sensors and Accelerometers, ACM/IEEE International Conference on Cyber-Physical Systems (ICCPS), April 16-18, 2019, Montreal, Canada.

C109. Bassem Ibrahim, Roozbeh Jafari, A Novel Method for Continuous Blood Pressure Monitoring using Wrist-worn Bio-impedance Sensors, IEEE Biomedical Circuits and Systems Conference (BioCAS), October 17-19, 2018, Cleveland, OH, USA.

C108. Jian Wu, Ali Akbari, Reese Grimsley, Roozbeh Jafari, A Decision Level Fusion and Signal Analysis Technique for Activity Segmentation and Recognition on Smart Phones, ACM SHL Recognition Challenge in sixth International Workshop on Human Activity Sensing Corpus and Applications, in conjunction with UbiComp, October 12, 2018, Suntec City, Singapore.

C107. Ali Akbari, Jian Wu, Reese Grimsley, Roozbeh Jafari, Hierarchical Signal Segmentation and Classification for Accurate Activity Recognition, ACM SHL Recognition Challenge in sixth International Workshop on Human Activity Sensing Corpus and Applications, in conjunction with UbiComp, October 12, 2018, Suntec City, Singapore.

C106. Bassem Ibrahim, Justin McMurray, Roozbeh Jafari, A Wrist-Worn Strap with an Array of Electrodes for Robust Physiological Sensing, IEEE Engineering in Medicine and Biology Society (EMBC), July 17-21, 2018, Honolulu, HI, USA.

C105. Jian Wu, Reese Grimsley, Roozbeh Jafari, A Robust User Interface for IoT using Context-aware Bayesian Fusion, IEEE International Conference on Wearable and Implantable Body Sensor Networks (BSN), March 4-7, 2018, Las Vegas, NV, USA.

C104. Bassem Ibrahim, Drew A. Hall, Roozbeh Jafari, Bio-Impedance Spectroscopy (BIS) Measurement System for Wearable Devices, IEEE Biomedical Circuits and Systems Conference (BioCAS), October 19-21, 2017, Turin, Italy.

C103.Bassem Ibrahim, Ali Akbari, Roozbeh Jafari, A Novel Method for Pulse Transit Time Estimation Using Wrist Bio-Impedance Sensing Based on a Regression Model, IEEE Biomedical Circuits and Systems Conference (BioCAS), October 19-21, 2017, Turin, Italy.

C102. Ali Akbari, Richard B. Dewey, Roozbeh Jafari, Validation of a New Model-Free Signal Processing Method for Gait Feature Extraction Using Inertial Measurement Units to Diagnose and Quantify the Severity of Parkinson's Disease, International Conference on Computer Communication and Networks (ICCCN), July 31 -August 3, 2017, Vancouver, Canada

C101.Bassem Ibrahim, Viswam Nathan, Roozbeh Jafari, Exploration and Validation of Alternate Sensing Methods for Wearable Continuous Pulse Transit Time Measurement Using Optical and Bioimpedance Modalities, IEEE Engineering in Medicine and Biology Society (EMBC), July 11-15, 2017, Jeju Island, Korea.

C100. Neha Dawar, Chen Chen, Roozbeh Jafari, Nasser Kehtarnavaz, Real-time Continuous Action Detection and Recognition Using Depth Images and Inertial Signals, IEEE International Symposium on Industrial Electronics (ISIE), June 19-21, 2017, Edinburgh, Scotland, UK.

C99. Syed Ali Hasnain, Roozbeh Jafari, Urban Heartbeat: From Modelling to Applications, IEEE International Conference on Smart Computing (SMARTCOMP), May 29-31, 2017, Hong Kong, China.

C98. Zachary Trujillo, Viswam Nathan, Gerard L. Coté, Roozbeh Jafari, Design and Parametric Analysis of a Wearable Dual-Photoplethysmograph Based System for Pulse Wave Velocity Detection, IEEE International Symposium on Circuits and Systems (ISCAS), May 28-31, 2017, Baltimore, MD, USA.

C97. Ali Akbari, Xien Thomas, Roozbeh Jafari, Automatic Noise Estimation and Context-Enhanced Data Fusion of IMU and Kinect for Human Motion Measurement, IEEE International Conference on Wearable and Implantable Body Sensor Networks (BSN), May 9-12, 2017, Eindhoven, The Netherlands.

C96. Ziwei Zhu, Sebastian Ober, Roozbeh Jafari, Modeling and Detecting Student Attention and Interest Level Using Wearable Computers, IEEE International Conference on Wearable and Implantable Body Sensor Networks (BSN), May 9-12, 2017, Eindhoven, The Netherlands.

C95. Somok Mondal, Chung-Lun Hsu, Roozbeh Jafari, Drew Hall, A Dynamically Reconfigurable ECG Analog Front-End with a 2.5× Data-Dependent Power Reduction, IEEE Custom Integrated Circuits Conference (CICC), April 30 - May 3, 2017, Austin, TX, USA.

C94. Chen Chen, Huiyan Hao, Roozbeh Jafari, Nasser Kehtarnavaz, Weighted Fusion of Depth and Inertial Data to Improve View Invariance for Real-time Human Action Recognition, SPIE Commercial + Scientific Sensing and Imaging, April 9-13, 2017, Anaheim, CA, USA.

C93. Varun Kumar, Alireza Ramezany, Saeed Mazrouei, Roozbeh Jafari, Siavash Pourkamali, A 3-bit Digitally Operated MEMS Rotational Accelerometer, IEEE International Conference on Micro Electro Mechanical Systems (MEMS), January 22-26, 2017, Las Vegas, NV, USA.

C92. Chen Chen, Roozbeh Jafari, Nasser Kehtarnavaz, Fusion of Depth, Skeleton, and Inertial Data for Human Action Recognition, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), March 20-25, 2016, Shanghai, China.

C91. Varun Kumar, Xiaobo Guo, Roozbeh Jafari, Siavash Pourkamali, Ultra-Low Power Self-Computing Binary Output Digital MEMS Accelerometer, IEEE International Conference on Micro Electro Mechanical Systems (MEMS), January 24-28, 2016, Shanghai, China.

C90. Varun Kumar, Xiaobo Guo, Roozbeh Jafari, Siavash Pourkamali, A Tunable Digitally Operated MEMS Accelerometer, IEEE Sensors, November 1-4, 2015, Busan, South Korea.

C89. Qingxue Zhang, Chakameh Zahed, Viswam Nathan, Drew A. Hall, Roozbeh Jafari, An ECG Dataset Representing Real-World Signal Characteristics for Wearable Computers, IEEE Biomedical Circuits and Systems Conference (BioCAS), October 22-24, 2015, Atlanta, GA, USA.

C88. Chen Chen, Roozbeh Jafari, Nasser Kehtarnavaz, UTD-MHAD: A Multimodal Dataset for Human Action Recognition Utilizing a Depth Camera and a Wearable Inertial Sensor, IEEE International Conference on Image Processing (ICIP), September 27-30, 2015, Quebec City, Canada.

C87. Terrell Bennett, Nicholas Gans, Roozbeh Jafari, Multi-Sensor Data-Driven Synchronization Using Wearable Sensors, International Symposium on Wearable Computers (ISWC), September 7-11, 2015, Osaka, Japan.

C86. Zhen Xu, Chengzhi Zong, Roozbeh Jafari, Constructing Energy Expenditure Regression Model Using Heart Rate with Reduced Training Time, International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), August 25-29, 2015, Milan, Italy.

C85. Viswam Nathan, Ilge Akkaya, Roozbeh Jafari, A Particle Filter Framework for the Estimation of Heart Rate from ECG Signals Corrupted by Motion Artifacts, International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), August 25-29, 2015, Milan, Italy.

C84. Chengzhi Zong, Roozbeh Jafari, Robust Heart Rate Estimation Using Wrist-Based PPG Signals in the Presence of Intense Physical Activities, International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), August 25-29, 2015, Milan, Italy.

C83. Rajesh Kuni, Yashaswini Prathivadi, Jian Wu, Terrell R. Bennett, Roozbeh Jafari, Exploration of Interactions Detectable by Wearable IMU Sensors. IEEE 12th Annual Body Sensor Networks Conference 2015 (BSN 2015), June 9-12, MIT, Cambridge, USA.

C82. Jian Wu, Zhongjun Tian, Lu Sun, Leonardo Estevez, Roozbeh Jafari, Real-time American Sign Language Recognition Using Wrist-worn Motion and Surface EMG Sensors. IEEE 12th Annual Body Sensor Networks Conference 2015 (BSN 2015), June 9-12, MIT, Cambridge, USA.

C81. Terrell R. Bennett, Nicholas Gans, Roozbeh Jafari, A Data-driven Synchronization Technique for Cyber-Physical Systems, 2nd International Workshop on the Swarm at the Edge of the Cloud, in conjunction with CPSWeek 2015, April 13-16, 2015, Seattle, WA, USA.

C80. Chengzhi Zong, Somok Mondal, Drew Hall, Roozbeh Jafari, Digitally Assisted Analog Front End Power Management Strategy via Dynamic Reconfigurability for Robust Heart Rate Monitoring, 7th Workshop on Adaptive and Reconfigurable Embedded Systems, in conjunction with CPSWeek 2015, April 13-16, 2015, Seattle, WA, USA.

C79. Javad Birjandtalab, Qingxue Zhang, Roozbeh Jafari, A Case Study on Minimum Energy Operation for Dynamic Time Warping Signal Processing in Wearable Computers, 4th International Workshop on the Impact of Human Mobility on Pervasive Systems and Application (PerMoby) in conjunction with PerCom, 23–27 March 2015. St. Louis, MO.

C78. Chen Chen, Roozbeh Jafari, Nasser Kehtarnavaz, Action Recognition from Depth Sequences Using Depth Motion Maps-based Local Binary Patterns, in Proceedings of the IEEE Winter Conference on Applications of Computer Vision (WACV 2015), January 6-9, 2015, Waikoloa Beach, HI.

C77. Yashaswini Prathivadi, Jian Wu, Terrell R. Bennett, Roozbeh Jafari, Robust Activity Recognition using Wearable IMU Sensors, IEEE Sensors, November 3-5, 2014, Valencia, Spain.

C76. Jian Wu, Roozbeh Jafari, Zero-Effort Camera-Assisted Calibration Techniques for Wearable Motion Sensors, ACM International Conference on Wireless Health, October 29-31, 2014, Bethesda, MD. (acceptance rate: 25%)

C75. Viswam Nathan, Roozbeh Jafari, Reducing the Noise Level of EEG Signal Acquisition through Reconfiguration of Dry Contact Electrodes, IEEE Biomedical Circuits and Systems Conference (BioCAS), October 22-24, 2014, Lausanne, Switzerland.

C74. Kui Liu, Chen Chen, Roozbeh Jafari, and Nasser Kehtarnavaz, Multi-HMM classification for hand gesture recognition using two differing modality sensors, The 10th IEEE Dallas Circuits and Systems Conference (DCAS'14), October 12-13, 2014, Richardson, TX.

C73. Mary Reagor, Chengzhi Zong, Roozbeh Jafari, Maximizing Information Transfer Rates in an SSVEP-based BCI using Individualized Bayesian Probability Measures, International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), August 26-30, 2014, Chicago, IL.

C72. Omid Dehzangi, Viswam Nathan, Chengzhi Zong, Chang Lee, Insoo Kim, Roozbeh Jafari, A Novel Stimulation for Multi-Class SSVEP-Based Brain-Computer Interface Using Patterns of Time-Varying Frequencies, International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), August 26-30, 2014, Chicago, IL.

C71. Simi Susan Thomas, Viswam Nathan, Chengzhi Zong, Ebunoluwa Akinbola, Antoine Lourdes Praveen Aroul, Lijoy Philipose, Karthikeyan Soundarapandian, Xiangrong Shi, Roozbeh Jafari, BioWatch - A Wrist Watch based Signal Acquisition System for Physiological Signals including Blood Pressure, International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), August 26-30, 2014, Chicago, IL.

C70. Chen Chen, Kui Liu, Roozbeh Jafari, Nasser Kehtarnavaz, Home-based Senior Fitness Test Measurement System Using Collaborative Inertial and Depth Sensors, International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), August 26-30, 2014, Chicago, IL.

C69. Chen Chen, Nasser Kehtarnavaz, Roozbeh Jafari, A Medication Adherence Monitoring System for Pill Bottles Based on a Wearable Inertial Sensor, International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), August 26-30, 2014, Chicago, IL.

C68. Viswam Nathan, Roozbeh Jafari, Characterizing Contact Impedance, Signal Quality and Robustness as a Function of the Cardinality and Arrangement of Fingers on Dry Contact EEG Electrodes, International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), August 26-30, 2014, Chicago, IL.

C67. Terrell R. Bennett, Claudio Savaglio, David Lu, Hunter Massey, Xianan Wang, Jian Wu, Roozbeh Jafari, MotionSynthesis Toolset (MoST): A Toolset for Human Motion Data Synthesis and Validation, MobileHealth 2014, August 11-14, 2014, Philadelphia, PA.

C66. Terrell R. Bennett, Roozbeh Jafari, Nicholas Gans, Motion Based Acceleration Correction for Improved Sensor Orientation Estimates, 2014 International Conference on Wearable and Implantable Body Sensor Networks (BSN), June 16-19, Zurich, Switzerland.

C65. Yuan Zou, Omid Dehzangi, Viswam Nathan, Roozbeh Jafari, Automatic Removal of EEG Artifacts Using Electrode-Scalp Impedance, IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), May 4-9, 2014, Florence, Italy.

C64. Roozbeh Jafari, Omid Dehzangi, Chengzhi Zong, Viswam Nathan, BCIBench: A Benchmarking Suite for EEG-Based Brain Computer Interface, Workshop on Optimizations for DSP and Embedded Systems (ODES), February 15, 2014, Orlando, FL.

C63. Omid Dehzangi, Yuan Zou, Roozbeh Jafari, Simultaneous Classification of Motor Imagery and SSVEP EEG Signals, IEEE/EMBS Conference on Neural Engineering (NER), November 5-6, 2013, San Diego, CA.

C62. Omid Dehzangi, Zheng Zhao, Mohammad-Mahdi Bidmeshki, John Biggan, Christopher Ray, Roozbeh Jafari, The Impact of Vibrotactile Biofeedback on the Excessive Walking Sway and the Postural Control in Elderly, ACM International Conference on Wireless Health, November 1-3, 2013, Baltimore, MD. (acceptance rate: 21%)

C61. Akshay Sridharan, Carl Sechen, Roozbeh Jafari, Low-Voltage Low-Overhead Asynchronous Logic, International Symposium on Low Power Electronics and Design (ISLPED), September 4 - 6, 2013, Beijing, China. (acceptance rate: 23%)

C60. Terrell Bennett, Roozbeh Jafari, Nicholas Gans, An Extended Kalman Filter to Estimate Human Gait Parameters and Walking Distance, American Control Conference (ACC), June 17 - 19, 2013, Washington, DC.

C59. Yuan Zou, Omid Dehzangi, Roozbeh Jafari, Score-based Adaptive Training for P300 Speller Brain Computer Interface, IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), May 26-31, 2013, Vancouver, Canada.

C58. Mohammad-Mahdi Bidmeshki, Roozbeh Jafari, Low Power Programmable Architecture for Periodic Activity Monitoring, ACM/IEEE International Conference on Cyber-Physical Systems (ICCPS), April 8-11, 2013, Philadelphia, PA. (acceptance rate: 23%)

C57. Reza Lotfian, Roozbeh Jafari, An Ultra-Low Power Hardware Accelerator Architecture for Wearable Computers Using Dynamic Time Warping, IEEE/ACM Design, Automation and Test in Europe (DATE), March 18-22, 2013, Grenoble, France.

C56. Nimish Kale, Jaeseong Lee, Reza Lotfian and Roozbeh Jafari, Impact of Sensor Misplacement on Dynamic Time Warping Based Human Activity Recognition Using Wearable Computers, ACM International Conference on Wireless Health, October 23-25, 2012, San Diego, CA. (acceptance rate: 24%)

C55. Ali Ahmadi, Omid Dehzangi, Roozbeh Jafari, Brain-computer interface signal processing algorithms: A Computational Cost vs. Accuracy Analysis for Wearable Computers, International Conference on Body Sensor Networks (BSN), May 10-12, 2012, London, UK.

C54. Yuan Zou, John Hart, Jr., Roozbeh Jafari, Automatic EEG Artifact Removal Based on ICA and Hierarchical Clustering, IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), March 25-30, 2012, Kyoto, Japan.

C53. Pasquale Panuccio, Hassan Ghasemzadeh, Giancarlo Fortino, Roozbeh Jafari, Power-Aware Action Recognition with Optimal Sensor Selection: An AdaBoost Driven Distributed Template Matching Approach, First International Workshop on Mobile Systems, Applications, and Services for Healthcare (mHealthSys) held at ACM SenSys, November 1st, 2011, Seattle, WA. (acceptance rate: 35%)

C52. Vitali Loseu, Jerry Mannil, Roozbeh Jafari, Lightweight Power Aware and Scalable Movement Monitoring for Wearable Computers: a Mining and Recognition Technique at the Fingertip of Sensors, ACM International Conference on Wireless Health, October 10-13, 2011, San Diego, CA. (acceptance rate: 35%)

C51. Jerry Mannil, Mohammad-Mahdi Bidmeshki, Roozbeh Jafari, Rejection of Irrelevant Human Actions in Real-time Hidden Markov Model Based Recognition Systems for Wearable Computers, ACM International Conference on Wireless Health, October 10-13, 2011, San Diego, CA. (acceptance rate: 35%)

C50. Ali Ahmadi, Roozbeh Jafari, John Hart, Jr., Light-weight Single Trial EEG Signal Processing Algorithms: Computational Profiling for Low Power Design, International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), August 30, September 3, 2011, Boston, MA.

C49. Vitali Loseu, Hassan Ghasemzadeh, Roozbeh Jafari, A Wireless Communication Selection Approach to Minimize Energy-per-bit for Wearable Computing Applications, IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS), June 27-29, 2011, Barcelona, Spain.

C48. Roozbeh Jafari, Reza Lotfian, A Low Power Wake-up Circuitry Based on Dynamic Time Warping for Body Sensor Networks, International Conference on Body Sensor Networks (BSN), May 23-25, 2011, Dallas, TX. (acceptance rate: 24%)

C47. Vitali Loseu, Roozbeh Jafari, Power Aware Wireless Data Collection for BSN Data Repositories, International Conference on Body Sensor Networks (BSN), May 23-25, 2011, Dallas, TX. (acceptance rate: 24%)

C46. Roozbeh Jafari, Tiered Low Power Wake-up Modules for Lightweight Embedded Systems, International Conference on Body Sensor Networks (BSN), May 23-25, 2011, Dallas, TX. (acceptance rate: 24%)

C45. Hassan Ghasemzadeh, Roozbeh Jafari, Ultra Low Power Granular Decision Making using Cross Correlation: Optimizing Bit Resolution for Template Matching, IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS), April 11-14, 2011, Chicago, IL. (1 out of 139). **(Recipient of the Best Paper Award)**

C44. Hassan Ghasemzadeh, Roozbeh Jafari, Ultra Low Power Granular Decision Making using Cross Correlation: Minimizing Signal Segments for Template Matching, ACM/IEEE International Conference on Cyber-Physical Systems (ICCPS), April 11-14, 2011, Chicago, IL. (acceptance rate: 28%)

C43. Hassan Ghasemzadeh, Roozbeh Jafari, A Greedy Buffer Allocation Algorithm for Power-aware Communication in Body Sensor Networks, The International Conference on Hardware-Software Codesign and System Synthesis (CODES+ISSS), October 24-29, 2010, Scottsdale, AZ. (acceptance rate: 34%)

C42. Vitali Loseu, Hassan Ghasemzadeh, Latifur R. Khan, and Roozbeh Jafari, A Mining Technique Using N-grams and Motion Transcripts for Body Sensor Network Data Repository, Wireless Health, October 4-7, 2010, San Diego, CA. (acceptance rate: 17%)

C41. Prem Santosh Udaya Shankar, Nikhil Raveendranathan, Nicholas R. Gans, and Roozbeh Jafari, Towards Power Optimized Kalman Filter for Gait Assessment using Wearable Sensors, Wireless Health, October 4-7, 2010, San Diego, CA. (acceptance rate: 17%)

C40. Sarah Ostadabbas, Roozbeh Jafari, Spectral Spatio-Temporal Template Extraction of EEG Signals, International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), August 31, September 4, 2010, Buenos Aires, Argentina.

C39. Hassan Ghasemzadeh, Roozbeh Jafari, Data Aggregation in Body Sensor Networks: A Power Optimization Technique for Collaborative Signal Processing, The 7th IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON), June 21-25, 2010, Boston, MA. (acceptance rate: 21%)

C38. Vitali Loseu, Hassan Ghasemzadeh, Sarah Ostadabbas, Nikhil Raveendranathan, Jacques Malan, and Roozbeh Jafari, Applications of Sensing Platforms in Body Sensor Networks, Light-weight Signal Processing for Computationally Intensive BSN Applications, Workshop affiliated with PETRA 2010, June, 2010, Samos, Greece.

C37. Hassan Ghasemzadeh, Vitali Loseu, Roozbeh Jafari, Collaborative Signal Processing for Action Recognition in Body Sensor Networks: A Distributed Classification Algorithm Using Motion Transcripts, The 9th ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN), April 12-16, 2010, Stockholm, Sweden. (acceptance rate: 17%)

C36. Hassan Ghasemzadeh, Roozbeh Jafari, Body Sensor Networks for Baseball Swing Training: Coordination Analysis of Human Movements Using Motion Transcripts, The 8th Annual IEEE International Conference on Pervasive Computing and Communications (PerCom), March 29-April 2, 2010, Mannheim, Germany.

C35. Hassan Ghasemzadeh, Eric Guenterberg, Sarah Ostadabbas, Roozbeh Jafari, A Motion Sequence Fusion Technique Based on PCA for Activity Analysis in Body Sensor Networks, 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), September 2009, Minneapolis, MN.

C34. Nikhil Raveendranathan, Vitali Loseu, Eric Guenterberg, Roberta Giannantonio, Raffaele Gravin, Marco Sgroi, Roozbeh Jafari, Implementation of Virtual Sensors in Body Sensor Networks with SPINE Framework, IEEE Symposium on Industrial Embedded Systems (SIES), July 2009, Switzerland

C33. Eric Guenterberg, Hassan Ghasemezadeh, Vitali Loseu, Roozbeh Jafari, Distributed Continuous Action Recognition using a Hidden Markov Model on Body Sensor Networks, IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS), June 2009, Marina Del Rey, CA. (acceptance rate: 22%)

C32. Eric Guenterberg, Hassan Ghasemzadeh, and Roozbeh Jafari, A Distributed Hidden Markov Model for Fine-grained Annotation in Body Sensor Networks, The Sixth International Conference on Body Sensor Networks (BSN), June 2009, Berkeley, CA.

C31. Hassan Ghasemzadeh, Nisha Jain, Marco Sgroi, Roozbeh Jafari, Communication Minimization for In-Network Processing in Body Sensor Networks: A Buffer Assignment Technique, IEEE/ACM Design, Automation and Test in Europe (DATE), April 2009, Nice, France. (acceptance rate: 27%)

C30. Eric Guenterberg, Sarah Ostadabbas, and Roozbeh Jafari, An Automatic Segmentation Technique in Body Sensor Networks Based on Signal Energy, The Fourth International Conference on Body Area Networks (BodyNets), April 1st-3rd 2009, Los Angeles, CA.

C29. Hassan Ghasemzadeh, Vitali Loseu, Roozbeh Jafari, Sport Training Using Body Sensor Networks: A Statistical Approach to Measure Wrist Rotation for Golf Swing, The Fourth International Conference on Body Area Networks (BodyNets), April 1st-3rd 2009, Los Angeles, CA.

C28. Hassan Ghasemzadeh, Jaime Barnes, Eric Guenterberg, Roozbeh Jafari, A Phonological Expression for Physical Movement Monitoring in Body Sensor Networks, The Fifth IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), September-October 2008, Atlanta, GA. (acceptance rate: 10%)

C27. Amardeep Sathyanarayana, Sandhya Nageswaren, Hassan Ghasemzadeh, Roozbeh Jafari, John H.L. Hansen, Body Sensor Networks for Driver Distraction Identification, IEEE International Conference on Vehicular Electronics and Safety (ICVES), September 2008, Columbus, OH.

C26. Jaime Barnes, Roozbeh Jafari, Locomotion Monitoring Using Body Sensor Networks, First International Conference on PErvasive Technologies Related to Assistive Environments, July 2008, Athens, Greece.

C25. Rohith Ramachandran, Lakshmish Ramanna, Hassan Ghasemzadeh, Gaurav Pradhan, Roozbeh Jafari, Balakrishnan Prabhakaran, Body Sensor Networks to Evaluate Standing Balance: Interpreting Muscular Activitires Based on Inertial Sensors, The 2nd International Workshop on Systems and Networking Support for Healthcare and Assisted Living Environments (HealthNet), June 2008, Breckenridge, CO.

C24. Allen Yang, Roozbeh Jafari, Philip Kuryloski, Sameer Iyengar Shankar Sastry, Ruzena Bajcsy, Distributed Segmentation and Classification of Human Actions Using a Wearable Sensor Network, IEEE CVPR Workshop on Human Communicative Behavior Analysis (CVPR4HB), June 2008, Anchorage, AK.

C23. Roozbeh Jafari, Manuel Quevedo-Lopez, Bruce Gnade, John Hart, Jr., Body Sensor Networks for Health-care Monitoring: Premises, Challenges and Prospective, (Tutorial) ACM International Conference on Body Area Networks (BodyNets), March 2008, Tempe, AZ.

C22. Yuan Xue, Stephen Wicker, Philip Kuryloski, Shanshan Jiang, Roozbeh Jafari, Ruzena Bajcsy, Yanchuan Cao, Sameer Iyengar, CareNet: An Integrated Wireless Sensor Networking Environment for Remote Healthcare, ACM International Conference on Body Area Networks (BodyNets), March 2008, Tempe, AZ.

C21. Hassan Ghasemzadeh, Eric Guenterberg, Katherine Gilani, Roozbeh Jafari, Action Coverage Formulation for Power Optimization in Body Sensor Networks, ACM/IEEE Asia and South Pacific Design Automation Conference (ASP-DAC), January 2008, Seoul, Korea.

C20. Eric Guenterberg, Hassan Ghasemzadeh, Roozbeh Jafari, Ruzena Bajcsy, A Segmentation Technique Based on Standard Deviation in Body Sensor Networks, IEEE Dallas Engineering in Medicine and Biology Workshop (Dallas-EMBS), November 2007, Dallas, TX.

C19. Roozbeh Jafari, Ruzena Bajcsy, Steven Glaser, Bruce Gnade, Marco Sgroi, Shankar Sastry, Platform Design for Health-care Monitoring Applications, Joint Workshop on High Confidence Medical Devices, Software, and Systems (HCMDSS) and Medical Device Plug-and-Play (MD PnP) Interoperability, June 2007, Boston, MA.

C18. Tammara Massey, Foad Dabiri, Roozbeh Jafari, Hyduke Noshadi, Philip Brisk, William Kaiser, Majid Sarrafzadeh, Towards Reconfigurable Embedded Medical Systems, Joint Workshop on High Confidence Medical Devices, Software, and Systems (HCMDSS) and Medical Device Plug-and-Play (MD PnP) Interoperability, June 2007, Boston, MA.

C17. Roozbeh Jafari, Soheil Ghiasi, Majid Sarrafzadeh, Medical Embedded Systems, (Tutorial) International Embedded Systems Symposium (IESS), May-June 2007, Irvine, CA.

C16. Roozbeh Jafari, Wenchao Li, Ruzena Bajcsy, Steven Glaser, Shankar Sastry, Physical Activity Monitoring for Assisted Living at Home, International Workshop on Wearable and Implantable Body Sensor Networks (BSN), March 2007, Aachen, Germany.

C15. Roozbeh Jafari, Ani Nahapetian, V. Reggie Edgerton, Ruzena Bajcsy, Majid Sarrafzadeh, Reliability in Light-Weight Medical Monitoring Platforms, (Tutorial) International Workshop on Wearable and Implantable Body Sensor Networks (BSN), March 2007, Aachen, Germany.

C14. Foad Dabiri, Roozbeh Jafari, Ani Nahapetian, Majid Sarrafzadeh, A Unified Optimal Voltage Selection Methodology for Low-power Systems, International Symposium on Quality Electronic Design (ISQED), March 2007, San Jose, CA.

C13. Roozbeh Jafari, Devin L. Jindrich, V. Reggie Edgerton, Majid Sarrafzadeh, CMAS: Clinical Movement Assessment System for Neuromotor Disorders, IEEE Biomedical Circuits and Systems Conference (BioCAS), November-December 2006, London, UK.

C12. Majid Sarrafzadeh, Foad Dabiri, Roozbeh Jafari, Tammara Massey, Ani Nahapetian, Low Power Light-weight Embedded Systems, (Tutorial) International Symposium on Low Power Electronics and Design (ISLPED), October 2006, Tegernsee, Germany.

C11. Roozbeh Jafari, Hyduke Noshadi, Soheil Ghiasi, Majid Sarrafzadeh, Adaptive Medical Feature Extraction for Resource Constrained Distributed Embedded Systems, The first IEEE International Workshop on Pervasive and Ubiquitous Health Care (UbiCare) in conjunction with PerCom, March 2006, Pisa, Italy.

C10. Roozbeh Jafari, Foad Dabiri, Majid Sarrafzadeh, An Efficient Placement and Routing Technique for Fault-tolerant Distributed Embedded Computing, The 11th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA), August 2005, Hong Kong.

C9. Roozbeh Jafari, Foad Dabiri, Majid Sarrafzadeh, CustoMed: A Power Optimized Customizable and Mobile Medical Monitoring and Analysis System, ACM HCI Challenges in Health Assessment Workshop in conjunction with CHI 2005, April 2005, Portland, OR.

C8. Roozbeh Jafari, Seda Ogrenci Memik, Majid Sarrafzadeh, Quick Reconfiguration in Clustered Micro-Sequencer, IEEE International Parallel & Distributed Processing Symposium (IPDPS-RAW), April 2005, Denver, CO.

C7. Roozbeh Jafari, Foad Dabiri, Philip Brisk, Majid Sarrafzadeh, Adaptive and Fault Tolerant Medical Vest for Life Critical Medical Monitoring, The 20th ACM Symposium on Applied Computing (SAC), March 2005, Santa Fe, NM.

C6. Jennifer L. Wong, Roozbeh Jafari, Miodrag Potkonjak., Gateway Placement for Latency and Energy Efficient Data Aggregation, The 29th Annual IEEE International Conference on Local Computer Networks (LCN), IEEE Computer Society, 2004, pp. 490-497.

C5. Roozbeh Jafari, Foad Dabiri, Majid Sarrafzadeh, Reconfigurable Fabric Vest for Fatal Heart Disease Prevention, The 3rd International Workshop on Ubiquitous Computing for Pervasive Healthcare Applications in conjunction with UbiComp'04 (UbiHealth'04), September 2004, Nottingham, UK.

C4. Mohammad S. Sadri, Nasim Shams, Masih Rahmaty, Iraj Hosseini, Reihane Changiz, Shahed Mortazavian, Shima Kheradmand, Roozbeh Jafari, An FPGA Based Fast Face Detector, Global Signal Processing Expo & Conference (GSPx), July 2004, Santa Clara, CA.

C3. Fang-Chung Chen, Foad Dabiri, Roozbeh Jafari, Eren Kursun, Vijay Raghunathan, Thomas Schoellhammer, Doug Sievers, Deborah Estrin, Glenn Reinman, Majid Sarrafzadeh, Mani Srivastava, Ben Wu, Yang Yang, Reconfigurable Fabric: An Enabling Technology for Pervasive Medical Monitoring, Communication Networks and Distributed Systems Modeling and Simulation Conference (CNDS), January 2004, San Diego, CA.

C2. Seda Ogrenci Memik, Gokhan Memik, Roozbeh Jafari, Eren Kursun, Global Resource Sharing for Synthesis of Control Data Flow Graphs on FPGAs, ACM/IEEE Design Automation Conference (DAC), June 2003, Anaheim, CA.

C1. Roozbeh Jafari, Henry Fan, Majid Sarrafzadeh, A Programmable System with Quick Reconfiguration, DesignCon, January 2003, San Jose, CA.

Short Papers and Posters

SP12. Simi Susan Thomas, Viswam Nathan, Chengzhi Zong, Praveen Aroul, Lijoy Philipose, Karthikeyan Soundarapandian, Xiangrong Shi, Roozbeh Jafari, Demonstration Paper: BioWatch: A Wrist Watch based Physiological Signal Acquisition System, ACM/IEEE International Conference in Information Processing in Sensor Networks (IPSN), April 15-17, 2014, Berlin, Germany.

SP11. Jian Wu, Zhangyu Wang, Suraj Raghuraman, Balakrishnan Prabhakaran, Roozbeh Jafari, Demonstration Paper: Upper Body Motion Capture System using Inertial Sensors, ACM/IEEE International Conference in Information Processing in Sensor Networks (IPSN), April 15-17, 2014, Berlin, Germany.

SP10. Viswam Nathan, Jian Wu, Chengzhi Zong, Yuan Zou, Omid Dehzangi, Mary Reagor, Roozbeh Jafari, A 16-channel Bluetooth Enabled Wearable EEG Platform with Dry-contact Electrodes for Brain Computer Interface, ACM International Conference on Wireless Health, November 1-3, 2013, Baltimore, MD.

SP9. Vitali Loseu, Hassan Ghasemzadeh, Roozbeh Jafari, Towards a Power Optimized Communication Failure Recovery Scheme for Body Sensor Networks, First International Conference on Cyber-Physical Systems (ICCPS), April 13-15, 2010, Stockholm, Sweden.

SP8. Anuradha Annadhorai, Eric Guenterberg, Jaime Barnes, Kruthika Haraga, Roozbeh Jafari, Human identification by gait analysis, In Proceedings of the ACM 2nd international Workshop on Systems and Networking Support For Health Care and Assisted Living Environments (HealthNet), June 17, 2008, Breckenridge, CO.

SP7. Jaime Barnes, Vikram Ramachandra, Katherine Gilani, Eric Guenterberg, Hassan Ghasemzadeh, Roozbeh Jafari, Locomotion Monitoring using Body Sensor Networks, International Conference on Information Processing in Sensor Networks (IPSN), April 2008, St. Louis, MO.

SP6. Antti Vehkaoja, Sameer Iyengar, Mari Zakrzewski, Roozbeh Jafari, Ruzena Bajcsy, Steven Glaser, Jukka Lekkala, Shankar Sastry, A Resource Optimized Physical Movement Monitoring Scheme for Environmental and on-Body Sensor Networks, ACM workshop on Systems and Networking Support for Healthcare and Assisted Living Environments (HealthNet), June 2007, Puerto Rico.

SP5. Roozbeh Jafari, Devin L. Jindrich, V. Reggie Edgerton, Majid Sarrafzadeh, Quantitative Assessment of Neuromotor Disorders Using a Wearable Sensor Network, Neuroscience '06, Symposium of Neuroscience, October 2006, Atlanta, GA.

SP4. Robert C. LeMoyne, Roozbeh Jafari, Quantified Deep Tendon Reflex Device, Neuroscience '06, Symposium of Neuroscience, October 2006, Atlanta, GA.

SP3. Robert LeMoyne, Roozbeh Jafari, David Jea, Mani Srivastava, Majid Sarrafzadeh, Fully Quantified Evaluation of Myotatic Stretch Reflex, Neuroscience '05, Symposium of Neuroscience, November 2005, Washington DC.

SP2. Roozbeh Jafari, Andre Encarnacao, Azad Zahoory, Foad Dabiri, Hyduke Noshadi, Majid Sarrafzadeh, Wireless Sensor Networks For Health Monitoring, The 2nd ACM/IEEE International Conference on Mobile and Ubiquitous Systems (MobiQuitous), July 2005, San Diego. CA.

SP1. Roozbeh Jafari, Foad Dabiri, Bo Kyung Choi, Majid Sarrafzadeh, Efficient Placement and Routing in Grid-Based Networks, The 20th ACM Symposium on Applied Computing (SAC), March 2005, Santa Fe, NM.

Patents

P5. Roozbeh Jafari, Jian Wu, Context Aware Movement Recognition System, US App 15398392.

P4. Roozbeh Jafari, Nasser Kehtarnavaz, Chen Chen, Wearable Medication Adherence Monitoring, US14/834,326.

P3. Nasser Kehtarnavaz, Roozbeh Jafari, Kui Liu, Chen Chen, Jian Wu, Fusion of inertial and depth sensors for robust body movement measurements and recognition, US61/912,516.

P2. Allen Yang, Ruzena Bajcsy, Shankar Sastry, Roozbeh Jafari, System for Detection of Body Motion, Issued on 6/23/2015, Patent Number: 9,060,714.

P1. Roozbeh Jafari, Devin Jindrich, V. Reggie Edgerton, Majid Sarrafzadeh, Method for Quantified Assessment of Neuromotor Disorders, US20100113979A1.

Professional Experience and External Service

Editorial Board	**Associate Editor** (2018 – current), ACM Transactions on Computing for Healthcare **Associate Editor** (2016 – current), IEEE Transactions on Biomedical Circuits and Systems **Associate Editor** (2013 – current)**,** IEEE Journal of Biomedical and Health Informatics (retitled from IEEE Transactions on Information Technology in Biomedicine) **Associate Editor** (2013 – current), IEEE Internet of Things Journal **Associate Editor** (2012 – 2018), IEEE Sensors Journal **Guest Editor**, IEEE Journal of Biomedical and Health Informatics, Special Issue on Sensor Informatics for Managing Mental Health 2015 **Guest Editor**, IEEE Transactions on Emerging Topics in Computing, Special Issue on Emerging Systems and Applications for Wireless Health Computing 2014 **Guest Editor**, IEEE Transactions on Information Technology in Biomedicine, Special Issue on Body Sensor Networks 2011 **Guest Editor**, ACM Transactions on Embedded Computing, Special Issue on Wireless Health 2010
Conference and Workshop Leadership	**SIG Member** (2015 – current), IEEE Internet of Things Special Interest Groups **Steering Committee Member**, Intl. Conf. on Body Sensor Networks 2012-2017. **Steering Committee Member**, ACM Wireless Health Conference 2010-2014 **General Chair**, Intl. Conf. on Body Sensor Networks 2018 **General Co-Chair**, Wireless Health 2013

Technical Program Committee Co-Chair, Wireless Health 2012
Technical Program Committee Co-Chair, Body Sensor Networks 2011
Technical Program Committee Co-Chair, BodyNets 2011
Organizer, BSN Contest 2011 & 2012 - http://bsncontest.org
Workshop Organizer:

- Sixth Workshop on Medical Cyber-Physical Systems (MedicalCPS), in conjunction with CPSWeek, 2015
- International Workshop on the Swarm at the Edge of the Cloud, in conjunction with CPSWeek, 2015
- ACM UbiComp Workshop on Smart Health Systems and Applications, 2014
- IEEE Texas Workshop on Integrated System Exploration (TexasWISE) 2014, 2015
- MobileHealth, ACM MobiHoc Workshop on Pervasive Wireless Healthcare, 2014
- Health Informatics Workshop, Wireless Health 2011
- Light-weight Signal Processing Workshop, PETRA 2010
- Multimedia Aspects in Pervasive Healthcare Workshop, ICME 2009

Demonstration Chair, IPSN 2014, in conjunction with CPS Week
Associate Editor, Intl. Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) 2011-2015

Technical Program Committee Member

- Intl. Symposium on Low Power Electronics and Design (ISLPED), 2016
- IEEE Intl. Conference on Healthcare Informatics (ICHI), 2016
- IEEE/ACM Design Automation Conference (DAC), 2016
- IEEE Conference on Connected Health: Applications, Systems, and Engineering Technologies (CHASE), 2016
- IEEE Intl. Conference on Parallel Processing (ICPP), 2016
- IEEE International Conference on Systems, Man, and Cybernetics (SMC), 2016.
- NextMote Workshop, 2016
- IEEE Intl. Conference on Information Processing in Sensor Networks (IPSN) 2015
- IEEE/CAS-EMB Biomedical Circuits and Systems Conference (BioCAS) 2014-2015
- Intl. Symposium on Low Power Electronics and Design (ISLPED) 2013-2016
- IEEE Intl. Conference on Healthcare Informatics (ICHI) 2013-2015
- IEEE Int. Conference on Computer-Based Medical Systems (CBMS) 2014
- IEEE Healthcare Innovations and Point-of-care Technologies Conference, 2014
- Intl. Conference on Wireless Mobile Communication and Healthcare (MobiHealth) 2011, 2014
- IEEE Intl. Conference on e-Health Networking, Applications and Services (Healthcom) 2013
- IEEE International Conference on Systems, Man and Cybernetics (SMC) 2014
- ACM Wireless Health 2010-2012 Conference
- Intl. Conference on Body Sensor Networks (BSN) 2009, 2010, 2012
- Intl. Conference on Cyber-Physical Systems (ICCPS) 2012
- IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS) 2012

- ACM SIGHIT Intl. Health Informatics Symposium (IHI) 2010-2013
- ACM MobiHoc Workshop on Pervasive Wireless Healthcare (MobileHealth) in conjunction with MobiHoc 2011-2013
- Intl. Conference on Mobile Computing, Applications and Services (MobiCASE), 2011, 2012
- Intl. Conference on Body Area Networks (BodyNets) 2008-2010, 2013
- IEEE Symposium on Industrial Embedded System (SIES) 2009
- IEEE Intl. Symposium on Circuits and Systems (ISCAS) 2007

Scientific Tutorials

- "Wearable Computers: a Holistic Design Approach" at IEEE/IFIP NOMS 2014
- "Body Sensor Networks for Health-care Monitoring: Premises, Challenges and Prospective" at BodyNets 2008
- "Reliability in Light-Weight Medical Monitoring Platforms" at BSN 2007
- 'Medical Embedded Systems" at IESS 2007
- "Low Power Light-weight Embedded Systems" at ISLPED 2006

Service to Review Panel and Study Section for Funding Agencies

- National Science Foundation, ENG/ECCS, CISE/CPS, SCH, CSR, HCC, SHB, CRI and CAREER programs 2008, 2010-2020
- National Institute of Health, BCHI 2017 – 2021 (Standing Member), ETTN-K (SBIR and STTR programs) 2012-2015
- Member of an National Institute of Health-lead committee preparing recommendations to support development of a centralized research data repository for methods development in body sensor networks (BSN) applications for clinical, research, and consumer applications
- Swiss National Science Foundation, 2018
- Knowledge Foundation-KK-Stiftelsen, Sweden, 2007, 2009, 2011
- State of Maryland, Technology Transfer Program, 2008
- State of Louisiana, Board of Regents, 2010

Membership IEEE, Senior Member; ACM, Member; Society for Neuroscience, Member

Student Alumni

1. **Jian Wu (PhD, 2018)**, Dissertation: Robust Signal Processing Techniques for Wearable Inertial Measurement Unit (IMU) Sensors, Current Position: Google, San Jose, CA.
2. **Viswam Nathan (PhD, 2018)**, Dissertation: Characterizing the Noise Associated with Sensor Placement and Motion Artifacts and Overcoming its Effects for Body-Worn Physiological Sensors, Current Position: Samsung, Digital Health Lab, San Jose, CA.
3. **Terrell Bennett (PhD, 2016)**, Dissertation: Algorithms for Enabling Wearable Sensors in the Internet of Things, Current Position: start-up in Dallas, TX.
4. **Chen Chen (PhD, 2016)**, Dissertation: Fusion of Depth and Inertial Sensing for Human Action Recognition, Current Position: Post-doctoral Scholar, University of Central Florida.
5. **Omid Dehzanghi (Post-Doc, 2014)**, Research Area: Wearable Computer Design for Biofeedback and Fall Prevention, Current position: Assistant Professor, Computer and Information Science department at University of Michigan, Dearborn.
6. **Yuan Zou (PhD, 2014)**, Dissertation: Addressing the Challenges in Signal Quality and Calibration Time of EEG-based Brain Computer Interface, Current Position: Start-up in Bay Area.
7. **Vitali Loseu (PhD, 2011)**, Dissertation: Data Mining at the Fingertips of the Sensors, Current position: Samsung Research, Dallas, TX.
8. **Hassan Ghasemzadeh (PhD, 2010)**, Dissertation: Power-Aware Signal Processing for Physical Movement Monitoring in Body Sensor Networks, Current position: Assistant Professor, Electrical Engineering and Computer Science, Washington State University, Pullman, WA.

9. **Simi-Susan Thomas (MS, 2014)**, Thesis: Non-invasive Wrist-based Blood Pressure Monitoring that Incorporates Training Techniques for Posture and Subject Variability.
10. **Zheng Zhao (MS, 2013)**, Project: Sway Monitoring and Vibro-tactile Feedback for Fall Prevention, Current Position: Sperlonga Data & Analytics, Dallas, TX.
11. **Nimish Kale (MS, 2012)**, Thesis: A Case Study on Robustness of Dynamic Time Warping for Activity Recognition Using Wearable Computers, Current position: R&D at Qualcomm, San Diego, CA.
12. **Jerry Mannil (MS, 2011)**, Thesis: A Real-time Hidden Markov Model Based Action Recognition System Using Body Sensor Networks, Current position: Broadcom, San Jose, CA.
13. **Nikhil Raveendranathan (MS, 2010)**, Thesis: Implementation of Movement Monitoring in Body Sensor Network and Assisted Virtual Reality, Current position: Research in Motion (RIM - BlackBerry), Dallas, TX.
14. **Eric Guenterberg (MS, 2009)**, Thesis: Segmentation Techniques for Biokinematic Data from Body Sensor Networks.
15. **Nisha Jain (MS, 2009)**, non-thesis option, Current position: Intel, Portland. OR.
16. **Chellappan Valliyappan (MS, 2009)**, non-thesis option, Current position: Advanced Micro Devices (AMD), Austin, TX.

(All students received full financial support from the adviser to complete their studies.)

Work Experience

Post-doctoral Scholar **7/06 – 6/07**	University of California, Berkeley, CA Electrical Engineering and Computer Science Department
Research Assistant **7/02 – 6/06**	University of California, Los Angeles, CA Computer Science Department Embedded and Reconfigurable Lab
Engineering Intern **5/01 – 8/01**	IBM Corporation, Endicott, NY Electronic Design Automation Group VLSI Testing – Random Pattern Fault Analysis
Research Assistant **9/00 – 1/01**	State University of New York, Buffalo, NY Electrical Engineering Department Security, Privacy and Dependability Research Lab
System Engineer **4/99 – 7/00**	KCR (www.kavoshcom.com), Tehran, Iran Low Energy Lighting Electronic Design Group
Engineering Intern **6/98 – 9/98**	Iran Telecommunication Research Center (ITRC), Tehran, Iran Communication Equipment Design and Testing Group

Teaching Experience

Texas A&M University	BMEN 428/ECEN 489/CSCE 489/BMEN 689: Microcontrollers and Communications in Medical Devices/Medical Embedded Systems (undergraduate senior level and first year graduate level course)
Electrical Eng. Dept. UT-Dallas	EE 6302: Microprocessor Design (this class was developed from scratch and includes extensive laboratory experiments) CE 4370: Introduction to Embedded Systems (this class was developed from scratch and includes extensive laboratory experiments) EE/CE2310: Introduction to Digital Systems EE/CE2110: Introduction to Digital Systems Lab EE7V82: Light-weight Embedded Systems Short lectures for EE7V82: Bio-Survey Course page: http://www.essp.utdallas.edu/Main/Courses
Xilinx Course Certificates	Fundamentals of FPGA Design (8 hrs), Design for Performance (16 hrs) Xilinx University Program – Embedded Development Kit (EDK) (8 hrs)

University Service

TAMU, *Ad hoc* Committee to Promote Joint Appointments Across the College of Engineering, 2017.
TAMU, Engineering Faculty Advisory Council (EFAC), College of Engineering, 2016-2019 (currently serving as vice chair)
TAMU, Center for Remote Health Technologies and Systems, Member of Faculty Search Committee, 2015-2016
UT-Dallas, Electrical Engineering, Chair: Teaching Assistants Award Committee (overseeing TA awards to 65+ students), 2014-2015
UT-Dallas, Electrical Engineering, Teaching Assistants Award Committee, 2012-2014
UT-Dallas, Electrical Engineering, Bylaws Committee (representative for EE assistant professors) 2011-2012
EE department did not have bylaws. The committee drafted bylaws taking input from the faculty.
UT-Dallas, Electrical Engineering, Teaching Assistants Assignment Committee, 2007-2012
UT-Dallas, Electrical Engineering, Qualifying Exam Committee, 2010-2015
UT-Dallas, Computer Engineering, Graduate Admission Committee, 2007-current
UT-Dallas, Computer Engineering, Graduate Committee, 2008-2010
UT-Dallas, Computer Engineering, Faculty Search Committee, 2010-2011, 2012-2013
UT-Dallas, Computer Engineering, Qualifying Exam Committee, 2010-2015

Invited Talks and Performance

- **Wearable Computers for Precision Medicine: An Integrated Solution**, ETH Zurich, Zurich, Switzerland, November 19, 2018.
- **Wearable Computers on the Edge of the Cloud**, SpaceCom, Houston, TX, December 5, 2017.
- **System Architectures for ICA: Role of Wearables**, NSF/SRC Workshop, IBM Almaden, San Jose, CA, UAE, November 14-16, 2017.
- **Wearable Computers on the Edge of the Cloud**, U.S. National Academy of Sciences Arab-American Frontiers of Science, Engineering, and Medicine symposium, hosted by the Masdar Institute of Science Technology, Abu Dhabi, UAE, November 5-7, 2016.
- **Wearable Computers on the Edge of Cloud**, Obesity Week, November 3, 2016, New Orleans, LA (http://obesityweek.com/)
- **Wearable Computers on the Edge of Cloud**, Microsoft Faculty Summer, July 13, 2016, Seattle, WA (https://www.microsoft.com/en-us/research/event/faculty-summit-2016/)
- **Wearable Computers on the Edge of the Cloud**, Japan-America Frontiers of Engineering Symposium (JAFOE), Irvine, CA, June 16-18, 2016.
- **Wearable Computers on the Edge of Cloud**, TCC's Wearable Technologies, April 16, 2016, Houston, TX (http://www.tcc-houston.org/wearable-technologies.html)
- **Tutorial: Wearable Computers: a Holistic Design Approach**, IEEE/IFIP Network Operations and Management Symposium 2014 (NOMS), May 14, 2014, Krakow, Poland. (http://noms2014.ieee-noms.org/content/tutorials)
- **SRC eSeminar: Brain Computer Interface: An Embedded Signal Processing Perspective**, November 22, 2013, Dallas, TX.
- **Invited Speaker: Wireless Health: Challenges and Opportunities**, IEEE Dallas CVT Society, November 19, 2013, Dallas, TX. (http://www.cvt-dallas.org/meetings1113.htm)
- **SRC Tutorial: Wearable Computers: O(1) Observation = Many Opportunities**, November 15, 2013, Berkeley, CA.
- **Invited Speaker: Wireless Health: Challenges and Opportunities**, October 18, 2013, Bioengineering Department, UCSD, La Jolla, CA.
- **Invited Speaker: Brain Computer Interface: An Embedded Signal Processing Perspective**, Institute for Neural Computation Chalk Talk Series, October 17, 2013, UCSD, La Jolla, CA. (http://inc.ucsd.edu/inc_sem.html)
- **Invited Speaker: Wearable Computers: 0(1) Observation = Many Opportunities**, TxACE Symposium, October 21, 2013, Dallas, TX.

- **Invited Talk: Design Flow for SwarmWear Platforms**, First International Workshop on the Swarm at the Edge of the Cloud (SEC), September 29, 2013, Montreal, Canada. (http://www.terraswarm.org/conferences/13/swarm/agenda.htm)
- **Invited Speaker: Wireless Health: Challenges and Opportunities**, September 6, 2013, Peking University, Peking, China. (http://ceca.pku.edu.cn/s.asp?id=350)
- **Featured Invited Talk: Wireless Health: Challenges and Opportunities**, The 24th IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP), June 7, 2013, Ashburn, VA. (http://hpcl.gwu.edu/asap2013/program)
- **Invited Panel Member: Medical Use of Wireless Hospital Room of the Future**, Virginia Tech Symposium on Wireless Personal Communications, May 29, 2013, Blacksburg, VA. (https://wireless.vt.edu/symposium/2013/2013%20Symposium%20Program.pdf)
- **Invited Speaker: Wireless Health: Challenges and Opportunities**, March 14, 2013, Université Paris 13, Paris, France.
- **Outstanding Young Speaker Talk: Wireless Health: Challenges and Opportunities**, IEEE Texas Workshop on Integrated System Exploration (TexasWISE) 2013, March 8, 2013, Winedale House, Round Top, TX. (http://texaswise.tamu.edu/program.html)
- **Keynote Speech: The Challenges and the Opportunities in Wireless Health**, ACM MobiHoc Workshop on Pervasive Wireless Healthcare in conjunction with MobiHoc 2012, June 11, 2012. Hilton Head Island, SC.

Press Items

- **Wearable Tech to Decode Sign Language**
  November 24, 2015, Reuters
  http://www.reuters.com/article/us-texas-a-m-university-idUSKBN0TD2GA20151124
- **This Wearable Device Translates Sign Language To English**
  October 6, 2015, Smithsonian Magazine
  http://www.smithsonianmag.com/innovation/wearable-device-translates-sign-language-english-180956827/
- **Samsung Demos a Tablet Controlled by Your Brain**
  April 19, 2013, MIT Technology Review
  http://www.technologyreview.com/news/513861/samsung-demos-a-tablet-controlled-by-your-brain/
- **Baseball Meets Internet of Things: Bye, Bad Umpires?**
  April, 6, 2013, InformationWeek
  http://www.informationweek.com/hardware/processors/baseball-meets-internet-of-things-bye-ba/240152409?queryText=ieee
- **Researchers on Quest to Create Next-Generation Technologies**
  January, 22, 2013, The University of Texas at Dallas News Center
  http://www.utdallas.edu/news/2013/1/22-21651_Researchers-on-Quest-to-Create-Next-Generation-Tec_article-wide.html
- **Wearable Computers the Size of Buttons to Monitor Health**
  December, 20, 2012, The IEEE Spectrum
  http://spectrum.ieee.org/riskfactor/biomedical/devices/wearable-computers-the-size-of-buttons-to-monitor-health
- **Button-sized Computing Device Promising for Elderly Fall Prevention**
  December 17, 2012, FierceMobileHealthcare
  http://www.fiercemobilehealthcare.com/story/button-sized-computing-device-promising-elderly-fall-prevention/2012-12-17
- **Researcher Working on Wearable Computers to Monitor Health**
  December 14, 2012, The University of Texas at Dallas News Center
  http://www.utdallas.edu/news/2012/12/14-21291_Researcher-Working-on-Wearable-Computers-for-Healt_article-wide.html

- **Roozbeh Jafari: Brain Game**
  December 6, 2011, IEEE - The Institute
  http://theinstitute.ieee.org/people/profiles/roozbeh-jafari-brain-game
- **UTD Study Uses Brain Game in Hopes to Better Soldier Rehabilitation**
  July 22, 2011, WFAA –TV (ABC DFW news channel)
  http://www.wfaa.com/news/national/UTD-study-uses-game--126051068.html

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