Arash Mohammadi, Ph.D., Senior Member of IEEE

CONTACT
INFORMATION

Concordia Institute for Information Systems Engineering   (February 5, 2019)
Concordia University
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Lab: Intelligent Signal & Information Processing Lab (I-SIP)

ACADEMIC
APPOINTMENTS

Assistant Professor (Dec. 2015-Present.)

Concordia University, Montreal, Quebec, Canada.

Department: Concordia Institute for Information Systems Engineering (CIISE),

Research Interests: My research interests are in the general area of Statistical Signal and Image Processing and their applications including:

- Signal Processing
- Rehabilitation and Assistive Systems;
- Biomedical Signal/Data Processing;
- Wearable Systems;
- Medical Cyber-Physical Systems (MCPS);
- Hybrid Brain-Computer Interfaces;
- Signal Processing in Human-in-the-loop Cyber-Physical Systems (HiLCPS);
- Distributed Signal and information processing over networked MCPSs;
- Security and Privacy of Signal Processing Solutions in MCPSs and HiLCPS;
- Estimation, Detection, Tracking, and Information Fusion Theory;
- Systems with Non-Linear Dynamics;
- Application of signal processing theory in Biomedical systems; Robotics; Smart Grids; Distributed Camera Networks; Vehicular Networks, and; Social Networks.

EDUCATION/
POSTDOCTORAL
EXPERIENCE

University of Toronto, Toronto, Ontario, Canada

Postdoctoral Fellow, Electrical and Computer Engineering (ECE), Dec. 1 2013-Nov. 31 2015.

- Area of Study: Signal Processing; Cyber-Physical Systems; Complex-Valued Signal Processing; Non-Gaussian Signals; Hybrid State Estimation.

York University, Toronto, Ontario, Canada

Ph.D., Electrical Engineering and Computer Science (EECS), 2013.

- Thesis: *Distributed Implementations of The Particle Filter with Performance Bounds*
- Area of Study: Statistical Signal Processing; Decentralized Estimation/Tracking; Systems with Non-Linear Dynamics; Information Fusion; Distributed Agent Networks.

Amirkabir University of Technology (Tehran Polytechnic), Tehran, IRAN

M.A.Sc., Biomedical Engineering- Bioelectric, 2007

- Thesis Topic: *Reconstruction of Missing Features for Noise Robust Speech Recognition*
- Area of Study: Signal Processing, Speech Recognition.

Tehran University, Tehran, IRAN

B.S., Electrical and Computer Engineering, September 2005

EDITORIAL/
ACADEMIC
ACTIVITIES

- *Director-Membership Services of IEEE SPS*   **Jan. 2018 - Dec. 2020**
  IEEE Signal Processing Society: I have been elected to serve on the IEEE Signal Processing Society (SPS) Membership Board in the capacity of Director-Membership Services and Chair of the associated Committee.

- *IEEE SPS - Member of Student Services Committee*   **Jan. 2019 - Dec. 2021**
  IEEE Signal Processing Society: I have been elected to serve on the IEEE Signal Processing Society (SPS) Student Services Committee. Activities of the Committee are related to Travel grants evaluation and selection for ICASSP, ICIP and GlobalSIP flagship conferences of IEEE SPS society, and to the organization of the SP and VIP cups and students luncheon for ICASSP and ICIP.

- *Member of IEEE SPS Conference Board*   **Jan. 2018 - Dec. 2020**
  IEEE Signal Processing Society (SPS): I have been elected to serve on the IEEE Signal Processing Society (SPS) Conference Board as a voting member for a term of 3 years.

- *Voting Member of IEEE SPS Membership Board*   **Jan. 2018 - Dec. 2020**
  IEEE Signal Processing Society (SPS): I have been elected to serve on the IEEE Signal Processing Society (SPS) Membership Board as a voting member for a term of 3 years.

- *Member of IEEE SPS Publications Board*   **Jan. 2018 - Dec. 2020**
  IEEE Signal Processing Society (SPS): I have been elected to serve on the IEEE Signal Processing Society (SPS) Publication Board as a member (non-voting) for a term of 3 years.

- *Member of Technical Committee on Brain-inspired Cognitive Systems (TC-BCS)*   **July. 2018 - Present**
  IEEE Systems, Man, and Cybernetics Society: The Technical Committee on Brain-inspired Cognitive Systems (TC-BCS) focuses on cognitive and autonomous systems, hybrid human-machine systems, and their societal implications.

- *Vice-Chair:*   **May 2016 - Present**
  IEEE Montreal Section, Signal Processing Montreal Chapter.

- *Associate Editor (AE):*   **Jan. 2017 - Present**
  IET Signal Processing.

- *Associate Editor (AE):*   **Jan. 2019 - Present**
  IET Electronics Letters.

- *Lead Guest Editor (GE):*   **May 2016 - Present**
  IEEE Transactions on Signal and Information Processing Over Networks (TSIPN),
  Special Issue: "Distributed Signal Processing for Security and Privacy in Networked Cyber-Physical Systems".

ORGANIZATION
ACTIVITIES

- *Lead Special Session Organizer: Explainable Machine Learning for Image Processing*
  Oct. 2019
  Description: As part of 2019 IEEE International Conference on Image Processing (ICIP'18), the objective of this special session is to collect novel ideas and innovative solutions that: (i) Augment interpretable capabilities of DNNs; (ii) Interpret properties of the input that lead to a specific output, and; (iii) Provide intuitive rationales behind the decisions made by DNNs.

- *General Co-Chair: Symposium on Advanced Bio-Signal Processing & Machine Learning for Medical Cyber-Physical Systems*   **Nov. 2018**
  Description: As part of 2018 IEEE Global Conference on Signal & Information Processing, the spirit and wide scope of the bio-signal processing & machine learning applications in Medical Cyber-Physical Systems (CPSs) calls for a focused investigation of state-of-the-art

techniques to further advance this field.

- *Lead Organizer: 2018 IEEE Video and Image Processing (VIP) Cup*   **Oct. 2018**
  Description: As part of 2018 IEEE International Conference on Image Processing (ICIP'18). The 2018 VIP-CUP challenge is on segmentation and prediction of Lung Cancer Tumor region via screening Computed Tomography (CT) scans. Images from several patients along with the annotations will be provided for training and validation purposes.

- *Publications/Publicity Chair: International Symposium on Foundations & Practice of Security (FPS'18)*   **Nov. 2018**
  Description: The eleventh edition of the FPS was hosted by Concordia University in Montreal, Canada, during November 13-15 2018. We invite researchers and practitioners from all countries working in security, privacy, trustworthy data systems and related areas to participate in the event.

- *General Co-Chair: Symposium on Advanced Bio-Signal Processing for Rehabilitation & Assistive Systems*   **Nov. 2017**
  Description: As part of 2017 IEEE Global Conference on Signal & Information Processing, the objective of this symposium is to bring together new techniques/technologies that augment the capabilities of conventional nero-rehabilitation, assistive and assessment systems using signal processing solutions.

- *Lead Special Session Organizer: Special Session on Bio-Signal Processing for Movement Assessment, Neuro-Rehabilitation & Assistive Technologies*   **Oct. 2017**
  Description: As part of 2017 IEEE International Conference on Systems, Man, and Cybernetics (SMC2017), the objective of this Special Session is to collect novel techniques that augment the capabilities of mechatronic technologies with intelligent signal processing algorithms to conduct accurate assessment of a patient's performance, intelligent diagnosis of a condition, neurorehabilitation and/or assistance in performing Activities of Daily Living.

- *General Co-Chair: IEEE Signal Processing Society Winter School on Distributed Signal Processing for Secure Cyber Physical Systems.*   **Nov. 2016**
  Description: The Winter School took place in the Engineering, Computer Science and Visual Arts Integrated Complex (EV Building), Concordia University Montreal, between Nov. 2nd to Nov. 4th. There were 9 presentation sessions delivered by 8 invited distinguished speakers from academia and 1 invited industry speaker including Prof. Ali Sayed; Prof. Georgios Giannakis; Prof. Pramod Varshney; Prof. Tongwen Chen; Prof. Deepa Kundur, and Prof. Mark Coates.

PRESTIGIOUS INVITED TALKS:

- *International Symposium on Medical Robotics (ISMR):*   **April 3, 2019**
  Title of Talk: "Tremor Extraction via Advanced Machine Learning Techniques for Robotic Rehabilitation".
  Location: Workshop Entitled: "Sensorimotor Augmentation in NeuroRehabilitation Robotic and Prosthetic Technologies," Atlanta, GA, USA.

- *2019 Bellairs Workshop:*   **Feb. 8-15, 2019**
  Title of Talk: "Distributed-Graph-Based Statistical Approach for Intrusion Detection in Cyber-Physical Systems".
  Location: Workshop Entitled: "Machine Learning and Statistical Signal Processing for Data on Graphs," McGill's Bellairs Research Institute.

- *Toronto Rehabilitation Institute (TRI):*   **May. 8, 2018**
  Title of Talk: "Advanced Signal Processing & Machine Learning Techniques for Human-in-the-Loop Cyber Physical Systems".

Location: Toronto Rehabilitation Institute (TRI), Toronto, ON, Canada.

- *Special Seminar Series ECE Carnegie Mellon University:* **May. 23, 2017**
  Title of Talk: "Secure Signal Processing Solutions for Distributed Processing and Anomaly/Attack Detection in Cyber-Physical Systems (CPSs)".
  Location: Carnegie Mellon University, Pittsburgh, PA, United States.

- *Identity, Privacy and Security Institute (IPSI) Seminar Series:* **Feb. 2, 2017**
  Title of Talk: "Secure State Estimation in Cyber-Physical Systems/Smart Grids: Challenges and Opportunities".
  Location: University of Toronto, Toronto, ON, Canada.

- *Centre for Power and Information (CPI) Seminar Series:* **Jan. 16, 2017**
  Title of Talk: "Secure Signal Processing Solutions for Attack Detection/Isolation in CPSs".
  Location: University of Toronto, Toronto, ON, Canada.

- *IEEE SPS Winter School, Distributed Signal Processing for Secure CPSs:* **Nov. 2, 2016**
  Title of Talk: "Secure Distributed State Estimation in Cyber Physical Systems".
  Location: University of Toronto, Toronto, ON, Canada.

BOOK CHAPTERS

[B2] *A. Mohammadi* and Konstantinos N. Plataniotis, "Secure State Estimation in Industrial Control Systems,": *Cyber Security for Industrial Control Systems: from the Viewpoint of Close-Loop*, Editors: Peng Cheng, Heng Zhang, and Jiming Chen, 2017.

[B1] *A. Mohammadi*, A. Asif "Consensus-based Particle Filter Implementations for Distributed Non-linear Systems," chapter 9 in *Nonlinear Estimation and Applications to Industrial Systems Control*, Editor G. Rigatos, 2011.

ACCEPTED/ PUBLISHED JOURNAL PUBLICATIONS

[J28] S. Shahtalebi*, S.F. Atashzar, R.V. Patel, and *A. Mohammadi* "HMFP-DBRNN: Real-time Hand Motion Filtering and Prediction via Deep Bidirectional RNN," Accepted *IEEE Robotics and Automation Letters*, Jan. 1st, 2019. DOI: 10.1109/LRA.2019.2894005

[J27] A. Al-Dulaimi, S. Zabihi, A. Asif, and *A. Mohammadi* "A Multiple-Model & Hybrid Deep Neural Network Model for Remaining Useful Life Estimation," Accepted in *Computers in Industry*, Feb. 4th, 2019. DOI: 10.1016/j.ins.2019.01.057. (**Impact Factor: 2.850**).

[J26] A. Amini, A. Asif, and *A. Mohammadi*, "Performance Constrained Distributed Event-triggered Consensus in Multi-agent Systems," Accepted *Information Science*, Jan 24. 2019, (**Impact Factor: 4.305**).

[J25] P. Afshar*, *A. Mohammadi*, K. N. Plataniotis, A. Oikonomou, and H. Benali, "From Hand-Crafted to Deep Learning-based Cancer Radiomics: Challenges and Opportunities," Accepted with Minor Revisions *IEEE Signal Processing Magazine*, (**Impact Factor: 7.451**).

[J24] S. Shahtalebi*, S.F. Atashzar, R.V. Patel, and *A. Mohammadi*, "WAKE: Wavelet Decomposition Coupled with Adaptive Kalman Filtering for Pathological Tremor Extraction," *Biomedical Signal Processing and Control*, vol. 48, pp. 179-188, Feb. 2019. (**Impact Factor: 2.783**)

[J23] S. Shahtalebi* and *A. Mohammadi*, "Bayesian Optimized Spectral Filters Coupled with Ternary ECOC for Single Trial EEG Classification," *IEEE Transactions on Neural Systems & Rehabilitation Engineering*, vol. 26, no. 12, pp. 2249-2259, Dec. 2018. (**Impact Factor: 3.972**)

Table 1: Summary Table of Journal Publication Venues.

Journal Publication Title	Impact Factor	Number of Published Journals: Life-Time (Concordia)
IEEE Transactions on Signal Processing	4.203	5 (2)
IEEE Transactions on Neural Networks and Learning Systems	7.982	1 (1)
IEEE Transactions on Aerospace and Electronic Systems	2.063	1 (-)
IEEE Signal Processing Letters	2.813	4 (1)
Signal Processing	3.470	2 (-)
Complexity (*Invited*)	4.621	1 (1)
Sensors (*Invited*)	2.475	1 (1)
IEEE Transactions on Circuits and Systems II: Express Briefs	2.45	1 (1)
IEEE Transactions Signal & Information Processing over Networks	-	3 (2)
Expert Systems with Applications	3.768	1 (-)
IEEE Transactions on Neural Systems & Rehabilitation Engineering	3.972	1 (1)
Biomedical Signal Processing and Control	2.783	1 (1)
IEEE Journal of Selected Topics in Signal Processing (*Invited*)	4.361	1 (1)
IEEE Signal Processing Magazine	7.451	2 (2)
Information Sciences	4.305	1 (1)
Computers in Industry	2.850	1 (1)
IEEE Robotics and Automation Letters	-	1 (1)
IEEE Transactions on Smart Grid	7.364	1 (1) Submitted
IEEE Transactions on Medical Imaging	6.131	1 (1) Submitted
Journal of The Franklin Institute	3.578	1 (1) Submitted
IET Renewable Power Generation	3.488	1 (1) Submitted
Weighted Impact Factor = 4.1536	**Total # Published Journals = 28 (17)**	
Total # Submitted Journals = 4	**Total # Published Conferences = 63 (38)**	
Total # Journals in Final Preparation = 14		

[J22] A. Amini, A. Asif, and *A. Mohammadi*, "Guaranteed Performance Sampled-data Event-based Average Consensus in Multi-agent Systems," *IEEE Transactions on Signal Processing*, vol. 66, no. 23, pp. 6096-6109, 1 Dec.1, 2018. (**Impact Factor: 4.203**)

[J21] *A. Mohammadi*, and K.N. Plataniotis, "Non-Circular Attacks on Phasor Measurement Units for State Estimation in Smart Grid," *IEEE Journal of Selected Topics in Signal Processing*, (**Invited Paper**), vol. 12, no. 4, pp. 777-789, Aug. 2018. (**Impact Factor: 4.361**)

[J20] *A. Mohammadi*, P. Afshar*, A. Asif, K. Farahani, J. Kirby, A. Oikonomou, and K. N. Plataniotis, "Lung Cancer Radiomics: Highlights from the IEEE Video and Image Processing Cup 2018 Student Competition," *IEEE Signal Processing Magazine*, vol. 36, no. 1, pp. 164-173, Jan. 2019. (**Impact Factor: 7.451**).

[J19] **A. Mohammadi**, C. Yang, and Q.W. Chen, "Attack Detection/Isolation via a Secure Multi-Sensor Fusion Framework for Cyber-Physical Systems" *Complexity Journal*, (**Invited Paper, Peer-Reviewed**), 2018. (**Impact Factor: 4.621**)

[J18] H. Sadreazami, A. Asif, and *A. Mohammadi*, "Iterative Graph-based Filtering for Image Abstraction and Stylization" *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 65, no. 2, pp. 251-255, Feb. 2018. (**Impact Factor: 2.45**)

[J17] **A. Mohammadi**, S. Davar*, and K.N. Plataniotis, "Ternary Event-based State Estimation with Joint Point, Quantized, and Set-valued Measurements," *IEEE Signal Processing Letters*, vol. 25, no. 5, pp. 665-669, May 2018. (**Impact Factor: 2.813**)

[J16] H. Sadreazami, **A. Mohammadi**, A. Asif, and K.N. Plataniotis, "Distributed Graph-based Statistical Approach for Intrusion Detection in Cyber-Physical Systems" *IEEE Transactions on Signal and Information Processing over Networks*, vol. 4, no. 1, pp. 137-147, March 2018.

[J15] **A. Mohammadi**, P. Cheng, V. Piuri, K.N. Plataniotis, P. Campisi, "Distributed Signal Processing for Security and Privacy in Networked Cyber-Physical Systems," *IEEE Transactions Signal & Information Processing over Networks,* vol. 4, no. 1, pp. 1-3, 2018.

[J14] **A. Mohammadi**, and K.N. Plataniotis, "Event-Based Estimation With Information-Based Triggering and Adaptive Update," *IEEE Transactions on Signal Processing*, vol. 65, no. 18, pp. 4924-4939, Sept. 15, 2017. (**Impact Factor: 4.203**)

[J13] C. Yang, **A. Mohammadi**, and Q.W. Chen, "A Fault-tolerant Integrated Navigation Algorithm via Interactive Multiple-Model Multi-Sensor Information Fusion," "*Sensors Journal,*" Special Issue "*Advances in Multi-Sensor Information Fusion: Theory and Applications*", (**Invited Paper & Peer-Reviewed**), vol. 16, no. 11, 2016. (**Impact Factor: 2.475**)

[J12] **A. Mohammadi** and K.N. Plataniotis, "Improper Complex-Valued Bhattacharyya Distance," *IEEE Transactions on Neural Networks and Learning Systems*, vol. 27, no. 5, pp. 1049-1064, May 2016. (**In the list of most popular papers of April, 2016.**) (**Impact Factor: 7.982**)

[J11] **A. Mohammadi** and K.N. Plataniotis, "Distributed Widely Linear Multiple-Model Adaptive Estimation," *IEEE Transactions on Signal and Information Processing over Networks*, vol. 1, no. 3, pp. 164-179, Sept. 2015.

[J10] **A. Mohammadi**, and K.N. Plataniotis, "Structure-Induced Complex Kalman Filter for Decentralized Sequential Bayesian Estimation," *IEEE Signal Processing Letters*, vol. 22, no. 9, pp. 1419-1423, September 2015. (**Impact Factor: 2.813**)

[J9] **A. Mohammadi** and K.N. Plataniotis, "Improper Complex-Valued Multiple-Model Adaptive Estimation," *IEEE Transactions on Signal Processing*, vol. 63, no. 6, pp. 1528-1542, March 2015. (**Impact Factor: 4.203**)

[J8] **A. Mohammadi**, and K.N. Plataniotis, "Complex-Valued Gaussian Sum Filter for Nonlinear Filtering of Non-Gaussian/Non-Circular Noise," *IEEE Signal Processing Letters*, vol. 22, no. 4, pp. 440-444, April 2015. (**In the list of most popular papers of October-November, 2014.**) (**Impact Factor: 2.813**)

[J7] **A. Mohammadi** and A. Asif, "Distributed Consensus + Innovation Particle Filtering for Bearing/Range Tracking with Communication Constraints," *IEEE Transactions on Signal Processing*, vol 63. no. 3, pp. 620-635, Feb. 2015. (**In the list of most popular papers of January, 2015.**) (**Impact Factor: 4.203**)

[J6] X. Zhong, **A. Mohammadi**, A. B. Premkumar and A. Asif, "A Distributed Unscented Particle Filtering Approach for Multiple Acoustic Source Tracking Using an Acoustic Vector Sensor Network," *Signal Processing*, vol. 108, pp. 589-603, 2014. (**Impact Factor: 3.470**)

[J5] **A. Mohammadi** and A. Asif, "Consensus-Based Distributed Dynamic Sensor Selection," *Signal Processing*, vol. 108, pp. 558-575, 2014. (**Impact Factor: 3.470**)

[J4] **A. Mohammadi** and A. Asif, "Full and Reduced-order Distributed Bayesian Estimation: Analytical Performance Bounds," *IEEE Transactions on Aerospace & Electronic Systems*, vol. 50, issue 4, pp. 2468-2488, 2014. (**Impact Factor: 2.063**)

[J3] **A. Mohammadi** and A. Asif, "Distributed Particle Filter Implementation with Intermittent/Irregular Consensus Convergence," *IEEE Transactions on Signal Processing*, vol. 61, no. 10, pp. 2572-2587, May15, 2013. (**Impact Factor: 4.203**)

[J2] **A. Mohammadi** and A. Asif, "Decentralized Conditional Posterior Cramer-Rao Lower Bound for Nonlinear Distributed Estimation", *IEEE Signal Processing Letters*, vol. 20, no. 2, pp. 165-168, February, 2013. (**Impact Factor: 2.813**)

[J1] **A. Mohammadi**, F. Almasganj "Reconstruction of Missing Features by Means of Multivariate Laplace Distribution (MLD) for Noise Robust Speech Recognition," *Expert Systems with Applications*, vol. 38, no. 4, pp. 3918-3930, 2011. (**Impact Factor: 3.768**)

ACCEPTED/
PUBLISHED
CONFERENCE
PUBLICATIONS

[C63] P. Afshar*, K.N. Plataniotis, and **A. Mohammadi**, "Capsule Networks for Brain Tumor Classification based on MRI Images and Course Tumor Boundaries," ACCEPTED in *2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. (**Flagship Conference of IEEE SPS**)

[C62] S. Mehryar, P. Malekzadeh*, S. Mazuelas, P. Spachos, K.N. Plataniotis, and **A. Mohammadi**, "Belief Condensation Filtering for RSSI-based State Estimation in Indoor Localization," ACCEPTED in *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. (**Invited Paper & Peer-Reviewed: Special Session on Signal Processing for Smart City Applications and the Internet of Things**). (**Flagship Conference of IEEE SPS**)

[C61] A. Amini, A. Asif, and **A. Mohammadi**, "Quantized Event-Triggered Sampled-Data Average Consensus with Guaranteed Rate of Convergence," ACCEPTED in *2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. (**Flagship Conference of IEEE SPS**)

[C60] A. Al-Dulaimi, S. Zabihi, A. Asif, and **A. Mohammadi**, "A Hybrid Deep Neural Network Framework for Estimating Remaining Useful Life in Prognostic Health Management Industrial Applications," ACCEPTED in *2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. (**Flagship Conference of IEEE SPS**)

[C59] A. Amini, Z. Zeinali, A. Asif, and **A. Mohammadi**, "Performance Constrained Distributed Event-triggered Consensus in Multi-agent Systems," ACCEPTED in *IEEE American Control Conference (ACC)*, 2019. (**Flagship Conference of IEEE Control Systems Society (CSS)**)

[C58] G. Kalantar*, M. Mirgholami, Amir Asif, and **A. Mohammadi**, "Improving the Performance of Motor Imagery EEG-based BCIs via an Adaptive Epoch Trimming Mechanism," *IEEE Global Signal Processing Conference (GlobalSip)*, 2018. (**Flagship Conference of IEEE SPS**)

[C57] A. Shahroudnejad*, P. Afshar, K.N. Plataniotis, and **A. Mohammadi**, "Improved Explainability of Capsule Networks: Relevance Path by Agreement," *IEEE Global Signal Processing Conference (GlobalSip)*, 2018. (**Flagship Conference of IEEE SPS**)

[C56] S. Davar*, and **A. Mohammadi**, "Designing Optimal Thresholds for Ternary Event-based State Estimation via Multi Objective Particle Swarm Optimizer," *IEEE International Midwest Symposium on Circuits and Systems (MWSCAS)*, 2018.

[C55] G. Kalantar* and *A. Mohammadi*, "Analyzing the Effect of Bluetooth Low Energy (BLE) with Randomized MAC Addresses in IoT Applications," *IEEE International Conference on Internet of Things (iThings)*, 2018.

[C54] P. Afshar*, A. Shahroudnejad*, and *A. Mohammadi* "CARISI: Convolutional Autoencoder-based Inter-Slice Interpolation of Brain Tumor Images," *IEEE International Conference Image Processing (ICIP)*, pp. 1458-1462, 2018. (**Flagship Conference of IEEE SPS**)

[C53] P. Afshar*, *A. Mohammadi*, K.N. Plataniotis, "Brain Tumor Classification via Capsule Nets," *IEEE International Conference on Image Processing (ICIP)*, pp. 3129-3133, 2018. (**Flagship Conference of IEEE Signal Processing Society (SPS)**).

[C52] G. Kalantar* and *A. Mohammadi*, "Graph-based Model of EEG Signals via Functional Clustering and Total Variation Measure for Brain Computer Interfacing," *IEEE International Engineering in Medicine and Biology Conference (EMBC)*, pp. 4603-4606, 2018. (**Flagship Conference of The IEEE Engineering in Medicine and Biology Society (EMBS)**)

[C51] A. Al-Dulaimi, *A. Mohammadi*, and A. Asif, "Interactive Multiple Model Particle Filters for Generalized Degradation Path Modeling" *Institute of Industrial & Systems Engineers (IISE) Annual Conference & Expo*, 2018. (**Flagship Conference of Institute of Industrial and Systems Engineers (IISE)**)

[C50] S. Davar*, *A. Mohammadi*, and K.N. Plataniotis, "Autonomous and self-aware systems, Autonomous Vehicles, Event-triggered estimation, Particle filtering," *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pp. 6578-6582, 2018. (**Invited Paper & Peer-Reviewed: Special Session on Signal Processing for Autonomous and Self Aware systems**). (**Flagship Conference of IEEE SPS**)

[C49] A. Amini, *A. Mohammadi*, and A. Asif, "Resilient Event-Triggered Consensus with Exponential Convergence in Multi-agent Systems," *IEEE American Control Conference (ACC)*, pp. 2889-2896, 2018. (**Flagship Conference of IEEE Control Systems Society (CSS)**)

[C48] S. Shahtalebi* and *A. Mohammadi* "A Bayesian Framework to Optimize Double Band Spectra Spatial Filters for Motor Imagery Classification," *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pp. 871-875, 2018. (**Flagship Conference of IEEE SPS**)

[C47] V. Khorasani*, *A. Mohammadi*, S.F. Atashzar, R.V. Patel, "Multiple-Model and Reduced-Order Kalman Filtering for Pathological Hand Tremor Extraction," *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pp. 940-944, 2018. (**Flagship Conference of IEEE SPS**)

[C46] G. Kalantar*, S.K. Mukhopadhyay, F. Marefat, P. Mohseni, and *A. Mohammadi*, "WAKE-BPAT: Wavelet-based Adaptive Kalman Filtering for Blood Pressure Estimation via Fusion of Pulse Arrival Times," *2018 IEEE International Conference on Acoustics, Speech & Signal Processing (ICASSP)*, pp. 945-949, 2018. (**Flagship Conference of IEEE SPS**)

[C45] A. Amini, A. Asif, and *A. Mohammadi*, "An Event-triggered Average Consensus Algorithm with Performance Guarantees for Distributed Sensor Networks," *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pp. 3409-3413, 2018. (**Flagship Conference of IEEE SPS**)

[C44] A. Amini, A. Asif, and *A. Mohammadi*, "A Robust Event-Triggered Consensus Strategy for Linear Multi-agent Systems with Uncertain Network Topology," *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pp. 3659-3663, 2018. (**Flagship Conference of IEEE SPS**)

[C43] D. Blizzard*, S. Davar*, and *A. Mohammadi*, "Real-Time and Event-Triggered Object Detection, Recognition, and Tracking," *IEEE International Midwest Symposium on Circuits and Systems (MWSCAS)*, pp. 1589-1592, 2017.

[C42] T. Maloney*, G. Kalantar*, and *A. Mohammadi*, "Progressive Fusion of Multi-rate Motor Imagery Classification for Brain Computer Interfaces," *IEEE International Midwest Symposium on Circuits and Systems (MWSCAS)*, pp. 1613-1616, 2017.

[C41] H. Sadreazami, A. Asif, and *A. Mohammadi*, "A Late Adaptive Graph-Based Edge-Aware Filtering with Iterative Weight Updating Process," *IEEE International Midwest Symposium on Circuits and Systems (MWSCAS)*, pp. 1581-1584, 2017.

[C40] *A. Mohammadi*, X.P. Zhang, and K.N. Plataniotis"Interactive Gaussian-Sum Filtering for Estimating Systematic Risk in Financial Econometrics," *IEEE Global Signal Processing Conference (GlobalSip)*, pp. 903-907, 2017. (**Flagship Conference of IEEE SPS**)

[C39] G. Kalantar*, H. Sadreazami, *A. Mohammadi*, and Amir Asif, "Adaptive Dimensionality Reduction Method using Graph-based Spectral Decomposition for Motor Imagery-based Brain-Computer Interfaces," *IEEE Global Signal Processing Conference (GlobalSip)*, pp. 990-994, 2017. (**Flagship Conference of IEEE SPS**)

[C38] S. Shahtalebi*, *A. Mohammadi*, S.F. Atashzar, R.V. Patel,"A Multi-rate and Auto-Adjustable Wavelet Decomposition Framework for Pathological Hand Tremor Extraction," *IEEE Global Signal Processing Conference (GlobalSip)*, pp. 432-436, 2017. (**Flagship Conference of IEEE SPS**)

[C37] V. Khorasani*, *A. Mohammadi*, S.F. Atashzar, R.V. Patel, "Dynamic Estimation Strategy for E-BMFLC Filters in Analyzing Pathological Hand Tremors," *IEEE Global Signal Processing Conference (GlobalSip)*, pp. 442-446, 2017. (**Flagship Conference of IEEE SPS**)

[C36] A. Amini, A. Asif, and *A. Mohammadi*, "A Guaranteed cost LMI-based Approach for Event-Triggered Average Consensus in Multi-agent Networks," *IEEE Global Signal Processing Conference (GlobalSip)*, pp. 543-547, 2017. (**Flagship Conference of IEEE SPS**)

[C35] S. Shahtalebi* and *A. Mohammadi*, "Ternary ECOC Classifiers Coupled with Optimized Saptio-Spectral Patterns for Multiclass Motor Imagery Classification," *IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, pp. 2231-2236, 2017. (**Flagship Conference of IEEE Systems, Man, and Cybernetics Society (SMC)**)

[C34] S. Davar* and *A. Mohammadi*, "Event-based Particle Filtering with Point and Set-valued Measurements" *European Signal Processing Conference (EUSIPCO)*, pp. 211-215, 2017. (**Flagship Conference of European Signal Processing Society**)

[C33] S. Shahtalebi* and *A. Mohammadi*, "Error Correction Output Codding Coupled with the CSP for Motor Imagery BCI" *European Signal Processing Conference (EUSIPCO)*, pp. 2071-2075, 2017. (**Flagship Conference of European Signal Processing Society**)

[C32] S. Davar* and *A. Mohammadi*, "Multi-Sensor and Information-Based Event Triggered Distributed Estimation" *International Conference on Distributed Computing in Sensor Systems (DCOSS)*, pp. 130-133, 2017.

[C31] A. Amini, *A. Mohammadi*, and A. Asif, "Event-based Consensus for a class of heterogeneous multi-agent systems: An LMI approach" *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pp. 3306-3310, 2017. (**Flagship Conference of IEEE SPS**)

[C30] A. Al-Dulaimi, *A. Mohammadi*, and A. Asif, "Generalized Degradation Model for Health Management of Mission Critical Systems" *Institute of Industrial & Systems Engineers (IISE) Annual Conference & Expo*, 2017. (**Flagship Conference of Institute of Industrial and Systems Engineers (IISE)**)

[C29] H. Sadreazami, A. Asif, and *A. Mohammadi*, "Data-Adaptive Color Image Denoising and Enhancement Using Graph-Based Filtering" *IEEE International Symposium on Circuits & Systems (ISCAS)*, pp. 1-4, 2017. (**Flagship Conference of IEEE Circuits & Systems Society (CAS)**)

[C28] H. Sadreazami, A. Asif, and *A. Mohammadi*, "Data-driven Image Stylization Using Graph-based Filtering" *IEEE Canadian Conference on Electrical and Computer Engineering (CCECE)*, pp. 1-4, 2017.

[C27] *A. Mohammadi* and A. Asif, "Diffusive Particle Filtering for Distributed Multisensor Estimation," in *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, pp. 3801-3805, 2016. (**Flagship Conference of IEEE SPS**)

[C26] *A. Mohammadi* and K.N. Plataniotis, "Widely-Linear Gaussian Sum Filter," *IEEE Sensor Array & Multichannel Signal Processing Workshop (SAM)*, pp. 1-5, 2016. (**Invited Paper & Peer-Reviewed: Special Session on Non-Circular Signals & Widely Linear Processing**).

[C25] *A. Mohammadi*, A. Margoosian, and K.N. Plataniotis, "Secure Estimation Against Complex-valued Attacks," in *IEEE Statistical Signal Processing (SSP)*, pp. 1-4, 2016.

[C24] *A. Mohammadi* and A. Asif, "A Distributed Consensus plus Innovation Particle Filter for Networks with Communication Constraints," in *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'14)*, pp. 1105-1109, 2014. (**Flagship Conference of IEEE SPS**)

[C23] A. Asif *A. Mohammadi* and S. Saxena, "Reduced Order Distributed Particle Filter for Electric Power Grids," in *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'14)*, pp. 7609-7613, 2014. (**Flagship Conference of IEEE SPS**)

[C22] X. Zhong, *A. Mohammadi*, A.B. Premkumar, and A. Asif, "A Distributed Particle Filter for Acoustic Source Tracking Using an Acoustic Vector Sensor Network," in *IEEE International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP)*, pp. 1-5, 2014.

[C21] *A. Mohammadi* and A. Asif, "Decentralized Computation of the Conditional Posterior Cramer-Rao Lower Bound: Application to Adaptive Sensor Selection," in *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'13)*, pp. 5278-5282, 2013. (**Flagship Conference of IEEE SPS**)

[C20] *A. Mohammadi* and A. Asif, "Full Order Nonlinear Distributed Estimation in Intermittently Connected Networks," in *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'13)*, pp. 6327-6331, 2013. (**Flagship Conference of IEEE SPS**)

[C19] *A. Mohammadi* and A. Asif, "Theoretical Performance Bounds for Reduced-order Linear and Nonlinear Distributed Estimation," in *IEEE Global Communiactions Conference (GLOBECOM)*, pp. 3905-3911, 2012. (**Flagship Conference of IEEE Communication Society (ComSoc)**)

[C18] *A. Mohammadi* and A. Asif, "A Constraint Sufficient Statistics based Distributed Particle Filter for Bearing Only Tracking", in *IEEE International Conference on Communications*

(ICC), pp. 3670-3675, 2012. (**Flagship Conference of IEEE Communication Society (ComSoc)**)

[C17] *A. Mohammadi* and A. Asif, "Decentralized Sensor Selection based on the Distributed Posterior Cramér-Rao Lower Bound," in *IEEE International Conference on Information Fusion*, pp.1668-1675, 2012. (**Honourable mention as one of the 10 best student papers**). (**Flagship Conference of International Society of Information Fusion (ISIF)**)

[C16] *A. Mohammadi*, A. Asif, X. Zhong, and A.B. Premkumar, "Decentralized Bayesian Estimation with Quantized Observations: Theoretical Performance Bounds," in *IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS)*, pp.149-156, 2013.

[C15] X. Zhong, *A. Mohammadi*, Wenwu Wang, A.B. Premkumar, and A. Asif, "Acoustic Source Tracking in a Reverberant Environment Using a Pairwise Synchronous Microphone Network," in *IEEE International Conference on Information Fusion*, pp. 953-960, 2013. (**Flagship Conference of International Society of Information Fusion (ISIF)**)

[C14] *A. Mohammadi* and A. Asif, "Full Order Distributed Particle Filters for Intermittent Connections: Feedback From Fusion Filters to Local Filters Improves Performance," in *IEEE Statistical Signal Processing (SSP)*, pp. 524-527, 2012.

[C13] *A. Mohammadi* and A. Asif, "Distributed State Estimation for Large-scale Nonlinear Systems: A Reduced Order Particle Filter Implementation," in *IEEE Statistical Signal Processing (SSP)*, pp. 249-252, 2012

[C12] *A. Mohammadi* and A. Asif, "Distributed Posterior Cramer-Rao Lower Bound for Nonlinear Sequential Bayesian Estimation," in *IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM)*, pp. 509-512, 2012.

[C11] *A. Mohammadi* and A. Asif, "A Consensus/Fusion based Distributed Implementation of the Particle Filter," in *IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, pp. 285-288, 2011. (**Selected among the seven winners of the student travel grants**)

[C10] *A. Mohammadi* and A. Asif, "Consensus-Based Distributed Unscented Particle Filter," in *IEEE Statistical Signal Processing (SSP)*, pp. 237-240, 2011.

[C9] *A. Mohammadi* and A. Asif, "Distributed Particle Filtering for Large Scale Dynamical Systems," in *IEEE International Multitopic Conference*, pp.1-5, 2009.

[C8] *A. Mohammadi*, F. Almasganj, A. Taherkhani, and F. Naderkhani, "Using Phoneme Segmentation in Conjunction with Missing Feature Approaches for Noise Robust Speech Recognition," in *IEEE International Symposium on Signal Processing and Information Technology (ISSPIT)*, pp. 297-301, 2007.

[C7] *A. Mohammadi*, F. Almasganj, A. Taherkhani, and F. Naderkhani, "Missing Feature Reconstruction with Multivariate Laplace Distribution (MLD) for Noise Robust Phoneme Recognition." in *IEEE International Symposium on Communications, Control, and Signal Processing (ISCCSP)*, pp. 836-840, 2008.

[C6] *A. Mohammadi*, F. Almasganj, S.N. Sadrieh, and A. Zandi "Incomplete Spectrogram Reconstruction with Kalman Filter for Noise Robust Speech Recognition," in *IEEE International Symposium on Communications, Control, and Signal Processing (ISCCSP)*, pp. 814-818, 2008.

[C5] *A. Mohammadi*, and F. Almasganj, "Investigation of Probability Distribution of Speech Signals in Mel Filter Bank Domain," In *Information and Knowledge Technology Conference (IKT)*, 2007 (in Persian).

[C4] A. Taherkhani, *A. Mohammadi*, S. A. Seyyedsalehi, H. Davande, "Design of a Chaotic Neural Network by Using Chaotic Nodes and NDRAM Network," in *IEEE World-Congress on Computational Intelligence (IWCCI)*, pp. 3500-3504, 2008.

[C3] A. Taherkhani, S.A. Seyyedsalehi, *A. Mohammadi*, M.H. Moradi, "Nonlinear Signal Processing for Voice Disorder Detection by Using Modified GP Algorithm and Surrogate Data Analysis," in *IEEE International Symposium on Signal Processing and Information Technology (ISSPIT)*, pp. 1171-1175, 2007.

[C2] S.N. Sadrieh1, R. Saadat, *A. Mohammadi*, "A New Method for Summation of Short Time CAF's Based on RLCS Motion," in *International Conference on Electrical Engineering (ICEE)*, pp. 1-4, 2008.

[C1] A. Taherkhani, S. A. Seyyedsalehi, *A. Mohammadi*, "Design of Chaotic Neural Network for Robust Phoneme Recognition," in *IEEE International Symposium on Signal Processing and Information Technology (ISSPIT)*, pp. 106-110, 2008.

AWARDS

- ***Concordia President's Excellence in Teaching Award in New Teacher Category***, **July. 2018**
  (***Excellence in Teaching Award***)
  Concorida University.

- ***Eshrat Arjomandi Award for Outstanding Ph.D. Dissertation***, **Feb. 2014**
  (***Best Ph.D. Thesis Award***)
  Electrical Engineering and Computer Science (EECS), York University.

- ***IEEE Fusion 2012: Top Student Paper Award***   ***July 2012***
  IEEE International Conference on Information Fusion (FUSION 2012).

- ***Graduate Development Fund***, *York University, Toronto, Canada*   **Spring 2012**

- ***IEEE CAMSAP 2011: Student Researcher Travel Grants***   ***Dec. 2011***
  IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP 2011),
  The Grant was supported by the U.S. Office of Naval Research (7 recipients)

- ***CUPE 3909 Graduate Student Award***   ***Winter 2011***
  York University, Toronto, Canada

- ***Faculty of Graduate Studies Award***   ***Summer 2010***
  York University, Toronto, Canada.

- ***Excellence in Research Grant***   **2006-2007**
  Iran Telecommunication Research Center (ITRC)

RESEARCH COLLABORATION ACTIVITIES

- ***Research Collaboration with Georgia Institute of Technology, US***,   **2017/10-Present**
  Description: Research collaboration with Prof. Ghovanloo from Georgia Institute of Technology (Georgia Tech), Atlanta, GA, USE, on development of signal processing solutions to advance multi-modal Tongue drive System developed at GT-Bionics Lab.

- ***Research Collaboration with Case Western Reserve University, US***,   **2017/6-Present**
  Description: Research collaboration with Prof. Mohseni from Case Western Reserve University, Cleveland, OH, USA on development of advance processing solutions for cuff-less

blood pressure estimation based on a new device developed in the BioMicroSystems Lab.

- **Research Collaboration with Nanyang Technological University, Singapore**, 2012/8-2013/12
  Description: A collaborative research with Dr. Zhong and Prof. Premkumar from Nanyang Technological University of Singapore for developing innovative distributed state estimation algorithms for acoustic source tracking.

- *Tensor Decompositions for Big Multi-aspect Data with Applications to Misinformation on the Web and Social Graph Analytics*   Dec. 7, 2018
  Invited Speaker: Dr. Vagelis Papalexakis.
  Speaker Brief Bio: Dr. Evangelos (Vagelis) Papalexakis is an Assistant Professor of the CSE Department at University of California Riverside. He received his PhD degree at the School of Computer Science at Carnegie Mellon University (CMU). Prior to CMU, he obtained his Diploma and MSc in Electronic & Computer Engineering at the Technical University of Crete, in Greece. Broadly, his research interests span the fields of Data Mining, Machine Learning, and Signal Processing. His research involves designing scalable algorithms for mining large multi-aspect datasets, with specific emphasis on tensor factorization models, and applying those algorithms to a variety of real world multi-aspect data problems.

- *Man-Machine Interfacing by Decoding Spinal Motor Neuron Behavior from High-Density EMG*   Nov. 27, 2018
  Invited Speaker: Dr. Dario Farina.
  Speaker Brief Bio: Dr. Dario Farina is the Chair in Neurorehabilitation Engineering at Imperial College London. Before joining Imperial College, he was Full Professor at Aalborg University, Aalborg, Denmark util 2010, when he was appointed as a full professor and founding chair of the Department of NeuroRehabilitation Engineering, University Medical Center Gottingen, Georg-August University, Germany. He founded and directed the Institute of Neurorehabilitation Systems (2010-2016) until he moved to Imperial College London as Chair in Neurorehabilitation Engineering. His research focuses on biomedical signal processing, Neurorehabilitation technology, and neural control of movement. Within these areas, he has (co)-authored approximately 400 papers in peer-reviewed Journals and >500 conference abstract and papers. He has been the President of the International Society of Electrophysiology and Kinesiology (ISEK) (2012-2014) and is currently the Editor-in-Chief of the official Journal of this Society, the Journal of Electromyography and Kinesiology. He is also currently an Editor for IEEE Transactions on Biomedical Engineering and the Journal of Physiology, and previously covered editorial roles in several other Journals.

- *Building Smart Systems for Focused Pattern Discovery Over Big Data*   Oct. 1, 2018
  Invited Speaker: Dr. Morteza Zihayat.
  Speaker Brief Bio: Dr. Morteza Zihayat joined the School of Information Technology Management of Ryerson University in 2017. Before joining ITM, Dr. Zihayat was a Postdoctoral Research Fellow in the Faculty of Information (iSchool) at the University of Toronto. He was also a research fellow in the IBM Spectrum Computing as a member of the BRAIN ALLIANCE - Big Data Research, Analytics, and Information Network. His research concerns big data analytics, business intelligence and machine learning. Dr. Zihayat has been involved in designing and implementing several industrial projects as a business analyst and data scientist at IBM Canada, Dapasoft Inc. and The Globe and Mail Inc.

- *Machine Learning in Engineering: Panacea or Deep Trouble?*   August 9, 2018
  Invited Speaker: Dr. Kostantinos N. Plataniotis.
  Speaker Brief Bio: Dr. Plataniotis is a Professor and the Bell Canada Chair in Multimedia with the ECE Department at the University of Toronto and he has served as the Director for the Knowledge Media Design Institute (KMDI) at the University of Toronto from January 2010 to July 2012. Dr. Plataniotis is a Fellow of the IEEE and Fellow of the Engineering

Institute of Canada. He has served as the Editor-in-Chief of the IEEE Signal Processing Letters, and as Technical Co-Chair of the IEEE 2013 International Conference in Acoustics, Speech and Signal Processing. He is the IEEE Signal Processing Society Vice President for Membership (2014 -2016), the General Chair for the 2018 IEEE ICIP, and the General Chair of the IEEE ICASSP 2021.

- *Selective Peripheral Nerve Recordings Using Spatiotemporal Signatures* **June 19, 2018**
  Invited Speaker: Dr. Jose Zariffa.
  Speaker Brief Bio: Dr. Jose Zariffa is a Scientist at the Toronto Rehabilitation Institute - University Health Network and an Assistant Professor at the Institute of Biomaterials and Biomedical Engineering at the University of Toronto. Dr. Zariffa received his Ph.D. in electrical and biomedical engineering from the University of Toronto. He then completed post-doctoral fellowships at the International Collaboration On Repair Discoveries (ICORD) in Vancouver, Canada, and at the Toronto Rehabilitation Institute. He is a recipient of an Ontario Early Researcher Award. His research interests are in neuroprosthetics and technology for upper limb neurorehabilitation, encompassing work in neural interfaces, wearable sensors, rehabilitation robotics, and electrophysiology.

- *What Role Can Machine Learning Play in Communication System Design* **May 30, 2018**
  Invited Speaker: Dr. Nariman Farsad.
  Speaker Brief Bio: Dr. Nariman Farsad is currently a Postdoctoral Fellow with the Department of Electrical Engineering at Stanford University, where he is a recipient of Natural Sciences and Engineering Research Council of Canada (NSERC) Postdoctoral Fellowship. He has won the second prize in 2014 IEEE ComSoc Student Competition: Communications Technology Changing the World, the best demo award at INFOCOMâĂŹ2015, and was recognized as a finalist for the 2014 Bell Labs Prize. He has been an Area Associate Editor for IEEE Journal of Selected Areas of Communication-Special Issue on Emerging Technologies in Communications, and a member of the Technical Program Committees for the ICC'2015-2018, BICT'2015, GLOBCOM'2015-2018.

- *Brain Computer Interfaces for Rehabilitation Systems*   **Nov. 14, 2017**
  Invited Speaker: Dr. Milos R. Popovic.
  Speaker Brief Bio: Dr. Popovic is the Associate Scientific Director at the Toronto Rehabilitation Institute - University Health Network and the Toronto Rehab Chair in Spinal Cord Injury Research. He is also a Professor (Tenured) in the Institute of Biomaterials and Biomedical Engineering at the University of Toronto, as well as Senior Scientist at the Toronto Rehabilitation Institute. Dr. Popovic is also the founder and director of the CenteR for Advancing Neurotechnological Innovation to Application (CRANIA) at the University of Toronto and University Health Network. Dr. Popovic is the co-founder and co-chair of the Canadian National Spinal Cord Injury Conference established in 2004.

- *Where Big Data meets Big Privacy*   **June 15, 2017**
  Invited Speaker: Dr. Ann Cavoukian.
  Speaker Brief Bio: Dr. Cavoukian served for an unprecedented three terms as the Information and Privacy Commissioner of Ontario since 1997. In that time, she elevated the Office of the Information and Privacy Commissioner from a novice regulatory body to a first-class agency, known around the world for its cutting edge innovation and leadership. Dr. Cavoukian is best known for her creation of Privacy by Design - unanimously adopted as an international framework for privacy and data protection in 2010; now translated into 38 languages. As of July 1, 2014, she began a new position at Ryerson University as the Executive Director of the Privacy and Big Data Institute.

- *In-Bed Pose Estimation: Deep Learning with Shallow Dataset*   **Nov. 17, 2017**
  Invited Speaker: Dr. Sarah Ostadabbas.
  Speaker Brief Bio: Dr. Ostadabbas is with the Electrical and Computer Engineering Department of Northeastern University (NEU). She has recently formed the Augmented Cog-

nition Laboratory (ACLab) with the goal of enhancing human information-processing capabilities through the design of adaptive interfaces via physical, physiological, and cognitive state estimation. These interfaces are based on rigorous models adaptively parameterized using machine learning and computer vision algorithms.

- *The Location-Aware IoT*   **April 24, 2017**
  Invited Speaker: Mr. Guylain Roy-MacHabee.
  Speaker Brief Bio: Mr. Guylain Roy-MacHabee is the CEO of Rx Networks and Fathom Systems Inc. Vancouver-based venture-funded companies. Rx Networks now enables device OEMs and mobile operators implement fast GPS positioning in more than a billion phones. With , a pending spin-off from Rx Networks, Guylain aims to bring pervasive indoor location, context and intelligence to the broader IoT market.

- *Haptics-enabled Robotic and Telerobotic NeuroRehabilitation*   **March 24, 2017**
  Invited Speaker: Dr. Farokh Atashzar.
  Speaker Brief Bio: Dr. Atashzar received his Ph.D. degree in Electrical and Computer Engineering (ECE) from University of Western Ontario and is a postdoctoral research associate at Canadian Surgical Technologies and Advanced Robotics (CSTAR). He was a co-organizer of the workshop on "Advanced Intelligent Mechatronics for Neuromuscular Rehabilitation and Recovery Assessment" held in 2016 IEEE/ASME AIM Conference, Banff, AB, Canada.

- *EEG Signal Analysis & Processing: Overview of Existing & Exciting Applications* April 25, 2016
  Invited Speaker: Dr. Kostantinos N. Plataniotis.
  Speaker Brief Bio: Dr. Plataniotis is a Professor and the Bell Canada Chair in Multimedia with the ECE Department at the University of Toronto and he has served as the Director for the Knowledge Media Design Institute (KMDI) at the University of Toronto from January 2010 to July 2012. Dr. Plataniotis is a Fellow of the IEEE and Fellow of the Engineering Institute of Canada. He has served as the Editor-in-Chief of the IEEE Signal Processing Letters, and as Technical Co-Chair of the IEEE 2013 International Conference in Acoustics, Speech and Signal Processing. He is the IEEE Signal Processing Society Vice President for Membership (2014 -2016), the General Chair for the 2018 IEEE ICIP, and the General Chair of the IEEE ICASSP 2021.

STUDENT
SUPERVISION

Postdoctoral Fellow

[PDF-2] *Farzad Amirjavid*   **Jan. 2019**
  Degree: Postdoctoral Fellow.
  Supervision: Co-Supervisor with Prof. K.N. Plataniotis
  Project Title: Pedestrian Dead-Reckoning Indoor Localization based on BLE Beacons.

[PDF-1] *Hamidreza Sadreazami*   **Sep. 2016-Oct. 2017**
  Degree: Postdoctoral Fellow.
  Supervision: Co-Supervisor with Prof. Amir Asif.
  Project Title: Graph-based Signal Processing.

Ph.D. Students

[PhD-9] *Soroosh Shahtalebi*   **Sep. 2016**
  Degree: Ph.D. Student.
  Supervision: Principal Supervisor.
  Project Title: HiLCPS: EEG-based Brain Computer Interfaces.

[PhD-8] *Amir Amini*   **Jan. 2016**
  Degree: Ph.D. Student.
  Supervision: Co-Supervisor with Prof. Amir Asif.
  Project Title: CPS: Distributed Nonlinear Event-based Control.

Table 2: Summary Table of HQPs.

Number	Student Name	Program	Start Date	Supervision Role	Status of the Supervision
1	Amir Amini	Ph.D.	Jan. 2016	Co-Supervisor	In Progress
2	Ali Al-Dulaimi	Ph.D.	May. 2016	Co-Supervisor	In Progress
3	Soroosh Shahtalebi	Ph.D.	Sep. 2016	Supervisor	In Progress
4	Parnian Afshar	Ph.D.	Sep. 2017	Supervisor	In Progress
5	Atefeh Shahroudnejad	Ph.D.	Sep. 2017	Supervisor	In Progress
6	Elaheh Rahimian	Ph.D.	May 2018	Supervisor	In Progress
7	Soheil Zabihi	Ph.D.	May 2018	Co-Supervisor	In Progress
8	Saghar Vahidi	Ph.D.	Sep. 2018	Co-Supervisor	In Progress
9	Abolfazl Rahiminejad	Ph.D.	Sep. 2018	Co-Supervisor	In Progress
10	Mahsa Mirgholami	MASc	Jan. 2018	Co-Supervisor	In Progress
11	Parvin Malekzadeh	MASc	Sep. 2018	Supervisor	In Progress
12	Amin Atashi	MASc	Jan. 2019	Supervisor	In Progress
13	Mohammad Salimi Beni	MASc	Jan. 2019	Supervisor	In Progress
14	Raika Karimi	MASc	Jan. 2019	Supervisor	In Progress
15	Farzad Amirjavid	PDF	Jan. 2019	Co-Supervisor	In Progress
16	Golnar Kalantar	MASc	Sep. 2016-June 2018	Supervisor	Completed
17	Somayeh Davar	MASc	Sep. 2016-July 2018	Supervisor	Completed
18	Muhammad Nasir Shafique	MEng	May-Sep. 2016	Supervisor	Completed
19	Abbas Haider	MEng	May-Sep. 2016	Supervisor	Completed
20	Kamran Balouchestani	MEng	Sep.-Dec. 2016	Supervisor	Completed
21	Kabir Ahmed	MEng	Sep.-Dec. 2017	Supervisor	Completed
22	William Cui	NSERC USRA	May-Sep. 2018	Supervisor	Completed
23	Jesse Steven Abeke	NSERC USRA	May-Sep. 2018	Supervisor	Completed
24	Suzette Slim	TRAC	May-Sep. 2018	Supervisor	Completed
25	Timothy Maloney	NSERC USRA	May-Sep. 2017	Supervisor	Completed
26	Desiree Blizzard	NSERC USRA	May-Sep. 2017	Supervisor	Completed
27	Mohamad Nour Ghalayini	NSERC USRA	May-Sep. 2017	Co-Supervisor	Completed
28	Hamidreza Sadreazami	PDF	August 2016- Oct. 2017	Co-Supervisor	Completed
29	Yang Chun	Visiting Student	March-Sep. 2016	Supervisor	Completed

[PhD-7] *Ali Al-Dulaimi*   **Sep. 2016**
        Degree: Ph.D. Student.
        Supervision: Co-Supervisor with Prof. Amir Asif.
        Project Title: CPS: Image-Based Process Monitoring.

[PhD-6] *Parnian Afshar*   **Sep. 2017**
        Degree: Ph.D. Student.
        Supervision: Principal Supervisor.
        Project Title: Object Tracking in Video Sequences using Deep Nets.

[PhD-5] *Atefeh Shahroudnejad*   **Sep. 2017**
        Degree: Ph.D. Student.
        Supervision: Principal Supervisor.
        Project Title: Explainable Machine Learning Implementations.

[PhD-4] *Elaheh Rahimian*   **July 2018**
        Degree: Ph.D. Student.
        Supervision: Principal Supervisor.
        Project Title: Explainable Machine Learning Implementations.

[PhD-3] *Soheil Zabihi*   **July 2018**
        Degree: Ph.D. Student.

Supervision: Co-Supervisor with Prof. Amir Asif.
Project Title: Explainable Machine Learning Implementations.

[PhD-2] *Saghar Vahidi* **Sep. 2018**
    Degree: Ph.D. Student.
    Supervision: Co-Supervisor with Prof. Mourad Debbabi.
    Project Title: Security of Wide Area Monitoring Protection and Control.

[PhD-1] *Abolfazl Rahiminejad* **Sep. 2018**
    Degree: Ph.D. Student.
    Supervision: Co-Supervisor with Prof. Mourad Debbabi.
    Project Title: Security of Smart Micro grids.

Master of Science Students

[MASC-7] *Golnar Kalantar* **Sep. 2016-Completed on June 21, 2018**
    Degree: Master-Thesis.
    Supervision: Principal Supervisor.
    Project Title: HiLCPS: Rehabilitation Robotics using EEG Signal Processing.

[MASC-6] *Somaieh Davar* **Sep. 2016-Completed on July 26, 2018**
    Degree: Master-Thesis.
    Supervision: Principal Supervisor.
    Project Title: CPS: Distributed Event-based Estimation.

[MASC-5] *Parvin Malekzadeh* **Sep. 2018**
    Degree: Master-Thesis.
    Supervision: Principal Supervisor.
    Project Title: Indoor Localization via IoT Measurements.

[MASC-4] *Mahsa Mirgholami* **Jan. 2018**
    Degree: Master-Thesis.
    Supervision: Co-Supervisor with Prof. Amir Asif.
    Project Title: HiLCPS: Real-time Brain Computer Interfacing.

[MASC-3] *Amin Atashi* **Jan. 2019**
    Degree: Master-Thesis.
    Supervision: Principal Supervisor.
    Project Title: Deep Learning-based Indoor Localization via BLE Measurements.

[MASC-2] *Mohammad Salimi* **Jan. 2019**
    Degree: Master-Thesis.
    Supervision: Principal Supervisor.
    Project Title: Implementation of Location-based Services based on BLE Beacons.

[MASC-1] *Raika Karimi* **Jan. 2019**
    Degree: Master-Thesis.
    Supervision: Principal Supervisor.
    Project Title: Thought-to-Speech REMAP project.

Master of Engineering Students

[M.Eng.-4] *Kabir Ahmed* **Completed in Dec. 2017**
    Degree: Master non-Thesis.
    Supervision: Principal Supervisor.
    Project Title: Degradation Modelling/Analysis and Implementation based on NASA data.

[M.Eng.-3] *Muhammad Nasir Shafique*   **Completed in Sep. 2016**
        Degree: Master non-Thesis.
        Supervision: Principal Supervisor.
        Project Title: Sequential Bayesian Adaptation of Mean Shifts in Quality Control.

[M.Eng.-2] *Kamran Balouchestani*   **Completed in Dec. 2016**
        Degree: Master non-Thesis.
        Supervision: Principal Supervisor.
        Project Title: Multi-sensor Information fusion for System Prognostics Through Condition-based Maintenance.

[M.Eng.-1] *Syed Abbas Haider*   **Completed in Sep. 2016**
        Degree: Master non-Thesis.
        Supervision: Principal Supervisor.
        Project Title: Multiple Model Adaptive Estimation Algorithms for System Prognostics via Condition Based Maintenance.

Undergraduate Student Research Assistants (USRA)

[USRA-6] *William Cui*   **May 2018-Sep. 2018**
        Degree: NSERC USRA.
        Supervision: Principal Supervisor.
        Project Title: Control of a Mobile Robot Using an Advanced EEG Headset for Brain Computer Interfacing.

[USRA-5] *Jesse Steven Abeke*   **May 2018-Sep. 2018**
        Degree: NSERC USRA.
        Supervision: Principal Supervisor.
        Project Title: Secure State Estimation in Smart Grids via Phasor Measurement Units.

[USRA-4] *Suzette Slim*   **May 2018-Sep. 2018**
        Degree: Teaching and Research Assistants at Concordia (TRAC).
        Supervision: Principal Supervisor.
        Project Title: Segmentation of Lung Cancer CT Scans.

[USRA-3] *Timothy Maloney*   **May 2017-Sep. 2017**
        Degree: NSERC USRA.
        Supervision: Principal Supervisor.
        Project Title: Online EEG-based Brain Computer Interface for Robotic Control.

[USRA-2] *Desiree Blizzard*   **May 2017-Sep. 2017**
        Degree: NSERC USRA.
        Supervision: Principal Supervisor.
        Project Title: Event-based Object Tracking for Intrusion Detection.

[USRA-1] *Mohamad Nour Ghalayini*   **May 2017-Sep. 2017**
        Degree: NSERC USRA.
        Supervision: Co-Supervisor with Prof. Amir Asif.
        Project Title: Cooperative Unmanned Aerial Vehicles Cyber-Physical Testbed.

Visiting Scholars

- *Chun Yang*   **March. 2016**
        Degree: Visiting Ph.D. Student.
        Supervision: Principal Supervisor.
        Project Title: Application of Multi-model Adaptive Estimation and Multi-Sensor Information Fusion in Vehicle Location Systems.

Technical Committee Chair (TCC)

- 2017 IEEE Global Conference on Signal and Information Processing (GlobalSIP).

Technical Program Committee (TPC)

- 2017 IEEE International Conference on Systems, Man, and Cybernetics (SMC2017).
- IEEE Global Communications Conference (GLOBECOM) 2016, workshop on **Cyber-Physical Smart Grid Security and Resilience (SGSR)**.
- International Conference on Current Research in Signal Processing & Communications (SPC 2016).
- 2015 IEEE Student Conference on Research and Development (SCOReD 2015).

Referee Service
- *IEEE Transactions on Vehicular Technology (TVT).*
- *IEEE Transactions on Aerospace and Electronic Systems (AES).*
- *IEEE Signal Processing Magazine.*
- *IEEE Computer Magazine.*
- *IEEE Transactions on Signal Processing (TSP).*
- *IEEE Signal Processing Letters (SPL).*
- *IEEE Transactions on Medical Imaging*
- *IEEE Transactions on Signal and Information Processing over Networks (SIPN)*
- *Signal Processing.*
- *Journal of the Franklin Institute.*
- *International Journal of Electrical Power and Energy Systems*
- *Asian Journal of Control.*

SERVICE: **Concordia Committee Memberships**

- **Concordia University Committee Membership**   **2017/6-Present**
  Concordia University PBEEE Committee Member: I am a member of Concordia University Committee for "Merit Scholarship Program for Foreign Students (PBEEE)".

- **Faculty of ENCS Committee Memberships**   **2016-Present**
  ENCS Health and Safety Committee.

- **Faculty of ENCS Committee Memberships**   **2017-2019**
  ENCS Faculty Council Committee Member: I have been elected by acclamation to serve on Faculty Council for a two year term from 2017-2019.
- **CIISE Committee Memberships**: Security Committee Member   **2016/6-2017/5**

- **CIISE Committee Memberships**: Seminar Committee   **2016/6-2017/5**

- **CIISE Committee Memberships**: Supervision Committee Member   **2016/6-2017/5**

- **Committee Member of Concordia Institute of Aerospace Design and Innovation (CIADI) 2018/1-Present**

Thesis Committee Membership

Ph.D. Committee Member

- *External Thesis Committee*: Ph.D. Defence of Jun Ye Yu Supervised by Prof. Michael Rabbat, ECE, MacGill University.   **Sep. 2018**

- *External Examining Committee*: Ph.D. Oral Comprehensive Exam of Guilherme Zilli Supervised by Prof. Wei-Ping Zhu, ECE, Concordia University. **Sep. 2018**

- *External Examining Committee*: Ph.D. Oral Comprehensive Exam of Mojtaba Hasannezhad Supervised by Prof. Wei-Ping Zhu, ECE, Concordia University. **Sep. 2018**

- *External Thesis Committee*: Ph.D. Defence of Hanwook Chung Supervised by Prof. Benoit Champagne, ECE, MacGill University. **June 15 2018**

- *External Thesis Committee*: Ph.D. Defence of Yunpeng LI Supervised by Prof. Mark Coates, ECE, MacGill University. **May 8 2017**

- *Internal Thesis Committee*: Ph.D. Defence of Hassan Zuhair Al Garni Supervised by Prof. Anjali Awasthi, CIISE, Concordia University. **July 27 2018**

- *Examining Committee*: Ph.D. Oral Comprehensive Exam of Wenjun Jia Supervised by Prof. Yong Zeng, CIISE, Concordia University. **April 10 2018**

- *Examining Committee*: Ph.D. Oral Comprehensive Exam of Raheel Brnawy Supervised by Prof. Nematollaah Shiri, CIISE, Concordia University. **Nov. 17 2017**

- *Examining Committee*: Ph.D. Oral Comprehensive Exam of Alghamdi Rubayye Supervised by Prof. Nizar Bouguila, CIISE, Concordia University. **Oct. 10 2017**

- *Examining Committee*: Ph.D. Proposal Exam of Lorenzo Luciano Supervised by Abdessamad Ben Hamza, CIISE, Concordia University. **Sep. 7 2017**

- *Chair*: Ph.D. Defence of Dingyu Zhang Supervised by Prof. Nadia F. Bhuiyan, MIE, Concordia University. **April 7 2016**

- *Examining Committee*: Ph.D. Oral Comprehensive Exam of Shervin Khazaeli Supervised by Prof. Ashutosh Bagchi, BCEE, Concordia University. **Nov. 30 2016**

- *Examining Committee*: Ph.D. Oral Comprehensive Exam of Ibrahim Salim Supervised by Prof. Abdessamad Ben Hamza, CIISE, Concordia University. **Nov. 28 2016**

- *Examining Committee*: Ph.D. Oral Comprehensive Exam of Koffi Eddy Ihou Supervised by Prof. Nizar Bouguila, CIISE, Concordia University. **Oct. 2016**

- *Examining Committee*: Ph.D. Oral Comprehensive Exam of Lorenzo Luciano Supervised by Prof. Abdessamad Ben Hamza, CIISE, Concordia University. **Oct. 13 2016**

Master Thesis Committee Member

- *Chair*: Master Defence of Emily Oelberg Supervised by Prof. Luis Rodrigues, CIISE, Concordia University. **August 10 2018**

- *External Examiner*: Master Defence of Md Rokon Uddin Dewan Rajib Supervised by Prof. Wei-Ping Zhu, ECE, Concordia University. **May 3 2018**

- *Internal Examiner*: Master Defence of Abbas Tavassoli Supervised by Prof. Anjali Awasthi, CIISE, Concordia University. **May 17 2017**

- *Internal Examiner*: Master Defence of Jaipuneet Singh Supervised by Prof. Nizar

Bouguila, CIISE, Concordia University. **May 15 2017**

- *Internal Examiner*: Master Defence of Mina Jafari Supervised by Prof. Anjali Awasthi, CIISE, Concordia University. **May 2 2017**

- *Chair*: Master Defence of Parul Khanna Supervised by Prof. Mohammad Mannan, CIISE, Concordia University. **April 18 2017**

- *Internal Examiner*: Master Defence of Rupinder Kaur Supervised by Prof. Anjali Awasthi, CIISE, Concordia University. **April 13 2017**

- *Internal Examiner and Chair*: Master Defence of Lixin Liu Supervised by Prof. Yong Zeng, CIISE, Concordia University. **March 23 2017**

- *External Examiner*: Master Defence of Omid Pourhosseini Supervised by Prof. Fuzhan Nasiri, BCEE, Concordia University. **Sep. 23 2016**

TEACHING

Concordia University, Montreal, Quebec, Canada.

Instructor

- INSE-6310: **Systems Engineering Maintenance Management.** **Winter 2018**
- COEN-231: **Introduction to Discrete Mathematics.** **Winter 2018**
- INSE-6310: **Systems Engineering Maintenance Management.** **Winter 2017**
- COEN-231: **Introduction to Discrete Mathematics.** **Fall 2016**
- INSE-6310: **Systems Engineering Maintenance Management.** **Winter 2016**

York University, Toronto, Ontario, Canada.

Instructor **Fall 2012**

- Instructor for CSE-3451: **Signals and Systems.** Course WebPage: Here

WORK EXPERIENCE

Research Center of Intelligent Signal Processing, Tehran, IRAN.

Speech Research Group, **July 2007 to August 2008.**

- Developing a Persian speech recognition engine/decoder.
- Designed and improved the performance of a real time automatic Persian speech to text system. (Shenava 3).

PROFESSIONAL MEMBERSHIPS

- Institute for Electrical and Electronics Engineers (IEEE), **Senior Member**.
  - IEEE Signal Processing Society (SPS).
  - IEEE Systems, Man, and Cybernetics Society (SMC).
  - IEEE Circuits and Systems Society (CAS).
  - IEEE Aerospace and Electronic Systems Society (AESS).