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Dr. Sheikh Md. Rabiul Islam

Professor

Research Area Biomedical Signal

Processing, Biomedical Image Processing,

Biomedical Device, Brain and

Nuroengineering, Biomechanics

Education

Doctor of Philosophy (ISE)

University of Canberra, Australia()

M.Sc. in Telecommunication Engineering

University of Trento, Italy()

B.Sc. in Engineering (ECE)

Khulna University, Bangladesh() Group: ECE,

Service Records

- **Professor**
Department/Section: Electronics and Communication Engineering
Khulna University of Engineering & Technology, From 01-01-1970 to 01-01-1970
- **Associate Professor**
Department/Section: Electronics and Communication Engineering
Khulna University of Engineering & Technology, From 01-01-1970 to 01-01-1970
- **Assistant Professor**
Department/Section: Electronics and Communication Engineering
Khulna University of Engineering & Technology, From 01-01-1970 to 01-01-1970
- **Lecturer**
Department/Section: Electronics and Communication Engineering
Khulna University of Engineering & Technology, From 01-01-1970 to 20-12-2000

Research Interest

Biomedical Signal Processing, Biomedical Image Processing, Biomedical Device, Brain and Nuroengineering, Biomechanics

Publication

Books

1. , "A Computational Investigation of an Active Region in Brain Network Based on Stimulations with Near-Infrared Spectroscopy" *Lecture Notes in Computer Science book series (LNCS, volume 10635)*, Springer International Publishing, 2017
2. Islam, S. M. R. , Huang, X. and Le, a. K. (2013) , **Neural Information Processing (Lecture Notes in Artificial Intelligence (LNAI) and Lecture Notes in Bioinformatics (LNBI))** , ISBN:978-3-642-42051-1, Springer Berlin Heidelberg, vol8228
3. Islam, S. M. R. , Huang, X. and Le, a. K. (2014) , **Neural Information Processing (Lecture Notes in Artificial Intelligence (LNAI) and Lecture Notes in Bioinformatics (LNBI))** , ISBN:978-3-319-12643-2, Springer International Publishing, vol8836
4. Islam, S. M. R. , Huang, X. , Ou, K. L. and Cui, R. F. R. a. H. (2015) , "Novel Information Processing for Image De-noising Based on Sparse Basis" **Neural Information Processing (Lecture Notes in Artificial Intelligence (LNAI) and Lecture Notes in Bioinformatics (LNBI))** , ISBN:978-3-319-26555-1, Springer Verlag, vol9491

Journals

11. Galib, S. M. S. and Rahman, S. M. R. I. & M. A. (05 June 2020) , " A multiple linear regression model approach for two-class fNIR data classification," **Iran Journal of Computer Science**, Springer
10. Rabbani, M. H. R. and Islam, S. M. R. (October 2019) , " Detection of Different Brain Diseases from EEG Signals Using Hidden Markov Model," **International Journal of Image, Graphics and Signal Processing (IJIGSP)** , vol11, no.10, pp.16-22
9. Tabassum, N. , Islam, S. M. R. and Huang, X. (April 2018) , " Bio-chip Design Using Multi-rate System for EEG Signal on FPGA," **International Journal of Image, Graphics and Signal Processing (IJIGSP)** , MECS Pres, vol10, no.4, pp.39-47
8. Johura, F. T. and Islam, S. M. R. (March 31, 2018) , " Novel Multistage Multirate system for ECG signal," **International Journal of Electronics and Communication Engineering** , vol7, no.2, pp.23-34
7. Hassan, M. , Islam, S. M. R. and Tabassum, N. (March 31, 2018) , " Design and Implementation of Sampling Rate Conversion System for Electroencephalogram (EEG) on FPGA Device," **International Journal of Electronics and Communication Engineering, Impact**

Factor(JCC): 4.9564 [Accepted], vol7, no.2, pp.9-22

5. Islam,T. , Islam,S. M. R. , Huang,X. , Ou,K. L. and ,(June 2017) , " Simultaneous image fusion and denoising based on multi-scale transform and sparse representation," **International Journal of Image, Graphics and Signal Processing(IJIGSP)**, Modern Education and Computer Press, vol9, no.6, pp.37-44
4. Noor-A-Rahima,M. N. , Zhangb,N. , Islam,S. M. R. and Guana,Y. , " Bilayer Expurgated LDPC Codes with Uncoded Relaying," **Digital Communications and Networks**, 2015 Published by Elsevier Ltd., pp.1-8
3. Mou,J. R. ,Islam,S. M. R. and Ou,X. H. a. K. L. (2016) , " Noise Removal and QRS Detection of ECG Signal," **Journal of Biomedical Engineering and Medical Imaging**, Society for Science and Education, United Kingdom, vol3, no.4, pp.1-17
3. Islam,S. M. R. , Uddin,A. F. M. N. , Hossain,M. B. and Khan,M. I. (2013) , " FPGA based Heart Arrhythmia's Detection Algorithm," **ACEEE International Journal of Information Technology**, vol3, no.1, pp.9-14
3. Islam,S. M. R. ,Huang,X. and Le,K. (2015) , " Image Compression Based on Compressive sensing Using Wavelet Lifting Scheme," **The International Journal of Multimedia & Its Applications(IJMA)**, vol7, no.1, pp.1-16
2. Islam,S. M. R. , Huang,X. , Liao,M. and Srinath,N. K. (2013) , " Image Denoising Based on Wavelet for IR Images Corrupted by Gaussian, Poisson & Impulse Noises," **IJCSNS International Journal of Computer Science and Network Security**, vol13, no.6, pp.59-70
2. Islam,S. M. R. , Huang,X. , Le,K. and Liao,M. (2013) , " Enhancing Quality of MR Image Based on Wavelet Algorithm," **International Journal of Computational Intelligence Research (IJCIR)**, vol9, no.1, pp.37-53
2. Islam,S. M. R. ,Huang,X. and Liao,M. , " Compression of IR Image Based on Wavelet Algorithm," **IJCSNS International Journal of Computer Science and Network Security**, 2012, vol12, no.12, pp.77-84
2. Liao,M. , Huang,X. , Sharma,D. and Islam,S. M. R. (2012) , " A New Method For Recognition And De-Noising For Middle Wave Infrared Imaging," **Journal of Flow Visualization and Image Processing**, vol19, no.2, pp.179-193
2. Islam,S. M. R. ,Huang,X. and Le,K. (2014) , " MR Image Compression Based on Selection of Mother Wavelet and Lifting Based Wavelet," **The International Journal of Multimedia & Its Applications(IJMA)**, vol6, no.2, pp.59-76
2. (2014) , " Solve Boundary value problem of Shooting and Finite difference method," **International Journal of Scientific &Engineering Research**, vol5, no.5, pp.332 -337
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2. Islam,S. M. R. and Hossain,M. J. (2012) , " Gate Level Design of a Digital Clock with Asynchronous-Synchronous Logic," **Global Journal of Researches in Engineering (GJRE)**, Global Journals Inc.(USA)., vol12, no.4, pp.17-22
2. Islam,S. M. R. ,Sarker,R. and Hossain,M. S. M. (2011) , " Design a digital system for detection of abnormality condition of heart from ECG waveforms," **International Journal of Wireless Communication and Information Systems (IJWCIS)**, vol1, no.2, pp.7-12
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Conference

34. (5-7 the June, 2020) , "Suitability Investigation of the Different Classifiers in fNIRS Signal Classification," **IEEE TENSYP 2020**
33. (October 2017) , "A Computational Investigation of an Active Region in Brain Network Based on Stimulation with Near-Infrared Spectroscopy," **International Conference on Neural Information Processing** , pp. 728-738
32. Alif,A. F. M. F. and Deb,S. M. R. I. a. P. , "Design and implementation of sorting algorithms based on FPGA," **2019 International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering (IC4ME2)** , pp.1-4
31. (26-28 Sept. 2019) , "Deep Residual Network-based Melanocytic Lesion Classification with Transfer Learning," **2019 5th International Conference on Advances in Electrical Engineering (ICAEE)**
30. Huang,X. , Rojas,R. F. , Madoc,A. C. and Islam,S. M. R. (June 2018) , "Biomedic Signal Processing and Analysis of Neuroimaging from fNIRS for Human Pain," **10th International Conference on Communication Software and Networks (ICCSN)**
29. (27-28 Dec. 2018) , "Analysis of Hemodynamic Response Function using fNIRS," **2018 International Conference on Innovation in Engineering and Technology (ICIET)** , pp.1-6
28. Saad,M. and Islam,S. M. R. (10-12 January 2019) , "Brain Connectivity Network Analysis and Classifications from Diffusion Tensor Imaging," **International Conference on Robotics, Electrical and Signal Processing Techniques (ICREST)** , pp. 422-427
27. Islam,M. R. ,Rusho,R. Z. and Islam,S. M. R. (10-12 January 2019) , "Design and Implementation of Low Cost Smart Syringe Pump for

- Telemedicine and Healthcare," **International Conference on Robotics, Electrical and Signal Processing Techniques (ICREST)** , pp.440-444
26. Shuvra,L. T. , Islam,S. M. R. , Zaman,N. and Hasan,M. A. (10-12 January 2019) , "Identification of Human Pain Perception using fNIRS," **International Conference on Robotics, Electrical and Signal Processing Techniques (ICREST)** , pp.434-439
25. Hasan,M. and Islam,S. M. R. (10-12 January 2019) , "Design and Implementation of Pre-processing Chip for Brain Computer Interface Machine," **International Conference on Robotics, Electrical and Signal Processing Techniques (ICREST)** , pp.428-433
24. (2018) , "Biomedical Signal Processing and Analysis of Neuroimaging from fNIRS for Human pain," **2018 13th APCA International Conference on Control and Soft Computing (CONTROLO)}** , pp.396-400
23. Kabir,M. F. ,Islam,S. M. R. and Rahman,M. A. (13-15 September 2018) , "Accuracy Improvement of fNIRS based Motor Imagery Movement Classification by Standardized Common Spatial Pattern," **4th International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT 2018)** , pp.395 - 400
22. Tamanna,R. ,Islam,S. M. R. and Tabassum,N. (13-15 September, 2018) , "Design and Implementation of DWT for EEG Signal on FPGA," **4th International Conference on Electrical Engineering and Information & Communication Technology (ICEEICT 2018)** , pp.390 - 394
21. Kabir,M. F. and Huang,S. M. R. I. a. X. (February 8~9, 2018) , "Towards the Appropriate Feature Extraction and Event Classification Methods for NIRS Data," **2018 International Conference on Computer, Communication, Chemical, Material and Electronic Engineering (IC4ME2)**
20. Deb,S. , Islam,S. M. R. , Johura,F. T. , Huang,X. and , (19-21 December 2017) , "Extraction of Linear and Non-Linear Features of Electrocardiogram Signal and Classification," **2nd International Conference on Electrical & Electronic Engineering (ICEEE)**
19. Tabassum,N. ,Islam,S. M. R. and Huang,X. (19-21 December 2017) , "Novel Multirate Digital Filter for EEG on FPGA," **2nd International Conference on Electrical & Electronic Engineering (ICEEE)**
18. (28-30 September, 2017) , "A new approach of image quality index," **Advances in Electrical Engineering (ICAEE), 2017 4th International Conference on** , pp.223-228
16. Tabassum,N. ,Islam,S. M. R. and Huang,X. , "Implementation of Biochip on Multirate System for EEG signal on ALTERA Cyclone Device," **3rd International Conference on Electrical Information and Communication Technology (EICT)**
15. Islam,S. M. R. ,Islam,M. T. and Huang,X. , "A New Approach of Image Quality Index," **2017 4th International Conference on Advances in Electrical Engineering (ICAEE), 28-30 September, Dhaka, Bangladesh**
14. Johura,F. T. , Islam,S. M. R. , , Maniruzzaman,M. and Hasan,M. (16-18 Feb. 2017) , "ECG Signal for Atrial Fibrillation Detection," **2017 International Conference on Electrical, Computer & Communication Engineering (ECCE2017)** , IEEE explore, pp.928-934
13. Mou,J. R. , Islam,S. M. R. , Maniruzzaman,M. and Hasan,M. (16-18 Feb. 2017) , "A New Approach of Noise Elimination Methodology for ECG Signal," **International Conference on Electrical, Computer & Communication Engineering (ECCE2017)** , IEEE explore, pp.921-927
12. Deb,S. , Islam,S. M. R. , Mou,J. R. and Islam,M. T. (16-18 Feb. 2017) , "Design and Implementation of Low Cost ECG Monitoring System for the Patient using Smart Device," **2017 International Conference on Electrical, Computer & Communication Engineering (ECCE2017)** , IEEE exploer, pp.774-778
11. Islam,S. M. R. , Sajol,A. , Huang,X. and Ou,a. K. L. (22-24th September 2016) , "Feature Extraction and Classification of EEG signal for Different Brain Control machine," **3rd International Conference on Electrical Engineering and Information & Communication Technology (iCEEICT)** , pp.1-6
10. Islam,S. M. R. and Sheikh,M. B. (2015) , "Novel Radio Resource Allocation for Multiuser OFDMA System with SSPA," **2nd International Conference on Electrical Engineering and Information & Communication Technology (iCEEICT)** , pp.1-6
9. Islam,S. M. R. ,Huang,X. and Le,a. K. (25-27 November 2014) , "Novel Evaluation Index for Image Quality," **The International Conference on Digital Image Computing: Techniques and Applications (DICTA)** , pp.293-300
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7. Huang,X. , Islam,S. M. R. , Liao,M. and Li,a. S. (3-5 July, 2013) , "High Quality Infrared Images with Novel Algorithm for Multi-Noises Removal," **IAENG Conference, Lecture Notes in Engineering and Computer Science, World Congress on Engineering 2013 (WCE 2013)** , pp.2184-2189
6. Islam,S. M. R. ,Huang,X. and Sharma,a. D. (2012) , "Wavelet Based Denoising Algorithm of the ECG Signal Corrupted by WGN and Poisson Noise," **2012 International Symposium on Communications and Information Technologies (ISCIT)** , pp.165-168
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4. Islam,S. M. R. ,Sarker,R. and Hossain,M. S. M. (December 2011) , "Design a digital system for detection of abnormality condition of heart from ECG waveform," **14th International Conference on Computer and Information Technology (ICCIT)** , pp.24-29
3. (November 2011) , "A Wireless Video Streaming System Based on OFDMA with Multi-layer H.264 Coding and Adaptive Radio Resource Allocation," **2011 International Conference on Image Information Processing (ICIIP)** , pp.1-6
2. Islam,S. M. R. ,Rahman,M. and Shager,C. (24 November 2007) , "BER Performance Analysis for the User in a Single Channel Wireless CDMA Radio Network," **2nd National Conference on Communication and Information Security** , pp.33-37
1. Hossain,M. Z. ,Islam,S. M. R. and Morshed,K. M. (24 November 2007) , "Analysis of CELP Coding with Different Bit Rate and Maximization of Speech Quality at Low Bit Rat," **2nd National Conference on Communication and Information Security** , pp.55-58