

Résumé

Khondaker Abdullah Al Mamun, PhD

Founder and Director, Advanced Intelligent Multidisciplinary Systems Lab (AIMS Lab)

Professor, Department of Computer Science and Engineering, United International University

Founder, CMED Health, A Preventive Healthcare Initiative in Bangladesh

Ex. Chair, IEEE Engineering in Medicine and Biology Society (IEEE EMBS), Bangladesh Chapter
Chair, First International Conference on Medical Engineering, Health Informatics and Technology (MediTec 2016)

Chair, First IBRO APCR NeuroScience Workshop & Brain Symposium in Bangladesh (IBRO APCR 2017)

Initiator, Bangladesh Research and Awareness Initiative of Neuroscience (BRAIN)

E-mail: mamun@cse.uui.ac.bd, k.mamun@ieee.org, mamun@cmed.com.bd, mamun79bd1@gmail.com

Phone: +8801776534220, www.kmamun.com, www.aimsl.uui.ac.bd, www.cse.uui.ac.bd/kmamun

Summary of experience and qualification

- PhD in Computer Science and Biomedical Engineering from the University of Southampton, UK.
- Postdoctoral Fellowship in Machine Learning, Biomedical and Rehabilitation Engineering from the University of Toronto, Canada.
- Experience in working as consultant of government and nongovernment projects in ICT, Health, Education and Disabilities including Autism, NDD at home and abroad.
- Winner of Global Innovation Award, SeedStars World Summit, Switzerland (Positioned as top innovation among 67 startups from 67 countries).
- Winner of DBS-NUS Social Innovation Award, NUS Enterprise, National University of Singapore (Positioned as top 5 innovation among 870 initiatives from 22 countries).
- Submitted three patent applications (status: two accepted and one under evaluation).
- Founder of Health startup (CMED Health), which are working to improve the healthcare service using IoT enable AI driven cloud based medical systems in Bangladesh.
- Innovator, CMED: Cloud based medical system framework for rural health monitoring in developing countries.
- Innovator, Bolte Chai: An augmentative and alternative communication Tools (Device & App) for enhancing communication for nonverbal children.
- Innovator, Autism Barta: A Mobile Interactive, Community-based Automated Tool for Screening Autism.
- Organizer, First Deep Brain Stimulation Surgery for Parkinson's disease in Bangladesh.
- Organizer, First IBRO APCR NeuroScience Workshop & Brain Symposium in Bangladesh.
- Organizer, First International Medical Engineering Conference (MediTec 2016) in Bangladesh.
- Published more than 100 articles as monographs, books sections, international journals, conferences, short paper, abstract. Acted as international journal and conference reviewer, session chair, technical and organizing committee member as well as organizer.
- Research featured in news outlets locally (news and television) and internationally including New Scientist and BCC.
- 10+ years of experience in supervising graduate and undergraduate research (2 PhD, 20 Masters & 50 Undergraduate theses, 30 internship/summer projects).
- 12+ years of experience in university teaching.
- Experience in system analysis and software design and development.
- Experience in writing research grant applications (Last three years, about TK 10 million fund received).
- Delivered more than 50 presentations as Keynote & Invited speaker.
- Experience in working on scientific knowledge translation (from research to commercialization).
- Achieved Khanbahadur Ahsanullah Podak (Gold Medal) for securing the highest CGPA in the Bachelor Degree program of the year 2002.
- Achieved Three (3) BASIS National ICT Award 2017 (Research and Development, Health and Wellbeing and Inclusion and Community category), One (1) National Mobile App Award 2016 (Inclusion category) and Two (2) AICTA Award 2017 (Research and Development and Inclusion and Community category).

Research Interest

- Biomedical Engineering and Applications
- Brain Machine Interface (BMI)

- Human Computer Interaction (HCI)
- Computational Neuroscience and Neural Engineering
- Biomedical Signal & Image Processing
- Pattern Recognition & Machine Learning
- ICT to Empower Disables
- Rehabilitation Engineering
- Access communication & Assistive Technologies
- Feature Extraction & Classification of Bio-signals
 - Mobile Technology for Healthcare Applications
 - Intelligent Systems
 - Education Quality Management
 - Distance Learning and Technology Enhanced Learning
 - Disabilities and Inclusion

Teaching Interest

- Biomedical Engineering
- Bioengineering Innovation and Design
- Human Centered Design
- Health Informatics and Telemedicine
- Artificial Intelligence
- Data Mining
- Research Methodology
- Pattern Recognition
- Human Machine Interface Systems
- Biomedical Applications of Signal Processing
- Assistive Technologies
- Bioinformatics
- Intelligent systems
- Machine Learning
- Rehabilitation Engineering
- Systems Neuroscience
- Knowledge Transfer and Entrepreneurship
- Society, Environment, Engineering Ethics

Education

- PhD** Computer Science and Biomedical Engineering, University of Southampton, UK, 2012.
 Dissertation: **Pattern Identification of Movement Related States in Biosignals**
 Supervisor: Prof. Shouyan Wang, University of Southampton, UK, Currently, Director of Biomedical Electronics Department, Suzhou Institute of Biomedical Engineering and Technology, Chinese Academy of Sciences, China
 Examiner: Prof. John Stein, University of Oxford, UK and Chair, Dyslexia Research Trust, UK
 Dr. David Simpson, University of Southampton, UK
- MSc** Computer Science and Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh, 2007.
 Dissertation: **Memory Efficient Data Structure for Static Huffman Tree**
 Supervisor: Prof. Md. Mostofa Akbar, Bangladesh University of Engineering and Technology, Bangladesh
- BSc** Computer Science and Engineering, Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh, (Ranked First in order of merit), 2002.
 Dissertation: **Architecture of Enterprise Resource Planning (ERP) for a Group of Companies**
 Supervisor: Dr. Tamjidul Hoque, University of New Orleans, USA.

Work Experience

- Jun 2018 – to date **United International University (UIU), Dhaka, Bangladesh.**
 Professor, Department of Computer Science & Engineering (CSE)
 Founder and Director, AIMS Lab (Advanced Intelligent Multidisciplinary Systems Lab)
Duties:
 - Responsible for teaching and tutoring Graduate and Undergraduate courses, supervising student theses/projects, assessing course works and lab reports, course curriculum development, advising students as well as involved in different administrative roles.
 - Responsible for managing the research of AIMS Lab, establishing new research and Project initiatives and knowledge translation. More details can be found in the Annual Report of AIMS Lab.
Courses Taught:
- Data Structures and Algorithms, Programming Language (C, C++, Matlab), Pattern Recognition, Software Development Lab, Research Methodology and Technical Writing, Human Computer Interaction, Advanced Intelligent Systems, Building a Tech Startup.
- Oct 2014 – Jun 2018 **United International University (UIU), Dhaka, Bangladesh.**

Associate Professor, Department of Computer Science & Engineering (CSE)
 Founder and Director, AIMS Lab (Advanced Intelligent Multidisciplinary Systems Lab)

Duties:

- Responsible for teaching and tutoring Graduate and Undergraduate courses, supervising student theses/projects, assessing course works and lab reports, course curriculum development, advising students as well as involved in different administrative roles.
- Responsible for managing the research of AIMS Lab, establishing new research and Project initiatives and knowledge translation. More details can be found in the Annual Report of AIMS Lab.

Courses Taught:

- Data Structures and Algorithms, Programming Language (C, C++, Matlab), Pattern Recognition, Software Development Lab, Research Methodology and Technical Writing, Human Computer Interaction, Advanced Intelligent Systems.

May 2012 – Jul 2014

University of Toronto, Toronto, Ontario, Canada

Postdoctoral Research Fellow, Institute of Biomaterials and Biomedical Engineering (IBBME), Postdoctoral Research Fellow (Cross appointment), Holland Bloorview Kids Rehabilitation Hospital (Canada's largest children's rehabilitation teaching hospital), Toronto, Canada.

Duties:

- Responsible for researching on projects related to Rehabilitation, Bio-Intelligent Systems, Medical Diagnostic Devices, Signal Processing, Machine Learning, Assistive Technologies and Brain Machine Interfaces.
- Teaching and supervising Graduate and Undergraduate students.
- Writing reports, research papers and developing research grant applications.

Courses Taught:

- Signal Processing, Pattern Classification, Assistive Technologies, Matlab.

Projects:

- Development and evaluation of accelerometry based swallowing impairment (dysphagia) detection (healthy vs. pathological) device (Aspirometer).
- Investigation of handwriting kinetics and kinematics for the application of biometric authentication.
- Design and development of tongue movement accelerometer based HMI for access Communications.
- Investigation to identify biomarkers based on physiological responses of youth with severe disabilities for defining optimal environments.
- Dynamic topographic visualization and quantification of a multichannel surface EMG grid array for medical diagnostic applications.
- Design and evaluation of a hands-free EMG-controlled pitch modulation for the Electrolarynx.
- Design and evaluation of transcranial doppler (TCD) ultrasonography driven online brain computer interface.
- Design and evaluation of selective auditory attention via transient evoked otoacoustic emissions for developing HMI for access communication device.
- Smart Autism and Autism Express: An automated tools for Autism screening to Intervention.

Jun 2006 – Oct 2014

Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh.

Assistant Professor, Department of Computer Science & Engineering (CSE)

Duties:

- Responsible for teaching and tutoring undergraduate courses, supervising student theses/projects, assessing course works and lab reports, course curriculum development, advising students as well as involved in different administrative roles.

Courses Taught:

- Data Structures and Algorithms, Programming Language (C, C++), Computer Networks, Numerical Methods, Discrete Mathematics, Digital Logic and System Design, Information System Design, Software Development Lab.

Oct 2009 – Jul 2012

University of Southampton, Southampton, Southampton, UK

Par-time Lecturer / Demonstrator, Faculty of Engineering and the Environments

Duties:

- Responsible for teaching, assessing course works and tutoring students for a number of courses.

Courses Taught:

- *Undergraduate level:* Computing using Python, Modelling and Computing, Algorithm
- *PhD level:* Research methods and presentation skills

Oct 2008 – Jul 2012

University of Southampton, Southampton, Southampton, UK

PhD Research Student, Institute of Sound and Vibration Research

Duties:

- Performed research on biomedical signal processing and pattern classification for the development of HMI and BMI.

Projects:

- Developed an efficient algorithm for translating tongue movement ear pressure (TMEP) signals as command to establish communication for the individuals with disabilities (assistive human machine interface).
- Proposed novel neural decoding algorithm for identifying movement related states from deep brain local field potentials (LFPs) recorded through deep brain stimulation (DBS) electrodes in the development of brain machine interface (BMI) to improve therapeutic intervention (for Parkinson's disease) and neuro-rehabilitations.
- Developed an efficient feature selection strategy (Weighted Sequential Feature Selection (WSFS)) to facilitate high dimensional small sample size biomedical signal classification.

Nov 2007 – Jul 2008

King Saud University (KSU), Riyadh, Saudi Arabia.

Researcher, College of Computer and Information Sciences (CCIS)

Duties:

- Responsible for researching on automatic speech recognition.
- Teaching, assessing course works and tutoring undergraduate students.

Courses Taught:

- Control system, Signal processing and pattern classification, Programming language

Projects:

- Investigation of automatic speech recognition for Arabic speech.
- Investigation of automatic Arabic speaker identification system.
- Signal processing for improving automatic speech recognition.

Apr 2003 – Jun 2006

Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh.

Lecturer, Department of Computer Science & Engineering (CSE)

Duties:

- Responsible for teaching and tutoring undergraduate courses, supervising student projects, assessing course works and lab reports, course module and laboratory development, advising students as well as involved in different administrative roles.

Courses Taught:

- Programming Language (C, C++), Computer Architecture, Numerical Methods, Discrete Mathematics, Digital Logic and System Design, Information System Design, Software Engineering, Database Management (Lab using Oracle).

Oct 2002 – Apr 2003

Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh.

Lecturer (Part-time), Department of Computer Science & Engineering (CSE)

Duties:

- Responsible for teaching, assessing course works and tutoring undergraduate students.

Courses Taught:

- Programming Language (C, C++), Digital System Design

Oct 2004 – Oct 2007

Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh.

CCNA Instructor (part-time), Cisco Networking Academy Program (CNAP).

Duties:

- Worked as an instructor for Cisco Certified Network Associate (CCNA) course under Cisco Networking Academy Program (CNAP). Also worked as an active member for establishing Cisco Networking Academy Program and Cisco network laboratory at the AUST in collaboration with Cisco, USAID and the University. Involved in administrative role for CCNA student enrolment, teaching and certification.

Courses Taught:

- Cisco Certified Network Associate (CCNA).

Mar 2007 – Oct 2007

United International University (UIU), Dhaka, Bangladesh.

CCNA Instructor (part-time), Cisco Networking Academy Program (CNAP).

Duties:

- Worked as an instructor for Cisco Certified Network Associate (CCNA) course under Cisco Networking Academy Program (CNAP). Also played key role to establish the Cisco Networking Academy Program at UIU in collaboration with Cisco and the University.

Courses Taught:

- Cisco Certified Network Associate (CCNA).

Publications**Books / Monographs / Book Sections:**

1. **K. A. Mamun**, “*Memory Efficient Data Structure for Static Huffman Tree*,” Lambert Academic Publishing (LAP), 88 pages, ISBN: 978-3659135262, Amazon link: <http://www.amazon.ca/Memory-Efficient-Structure-Static-Huffman/dp/3659135262>.
2. B. Ghali, **K. A. Mamun**, T. Chau, “*A Comparison of Handwriting Grip Kinetics Associated with Authentic and Well-Practiced Bogus Signatures*,” published as book section in *Artificial Intelligence Perspectives and Applications*, Springer book Series: *Advances in Intelligent Systems and Computing*, vol. 347, pp. 257-266, 2015.
3. M. Islam, **K. A. Mamun**, M. Khan and H. Deng, “*A probabilistic neural network approach for prediction of movement and laterality from deep brain local field potentials*,” published as book section in *Modern Trends and Techniques in Computer Science (Part I: Artificial Intelligence)*, Springer book Series: *Advances in Intelligent Systems and Computing*, vol. 285, pp. 129-142, 2014.
4. F. Anowar, M. A. Helal, S. Afroj, S. Sultana, F. Sarker and **K. A. Mamun**, “*A critical review on World University ranking in terms of top four ranking systems*,” published as book section in *New Trends in Networking, Computing, E-learning, Systems Sciences, and Engineering*, K. Elleithy and T. Sobh (eds.), *Lecture Notes in Electrical Engineering 312*, DOI 10.1007/978-3-319-06764-3_72, Springer International Publishing Switzerland 2014.

Refereed Journal Papers:

1. M. S. Islam, **K. A. Mamun**, H. Deng, “Decoding of Human Movements Based on Deep Brain Local Field Potentials Using Ensemble Neural Networks,” *Journal of Computational Intelligence and Neuroscience*, 2017, Hindawi Publishing Corporation, <https://doi.org/10.1155/2017/5151895>, (Impact Factor: 1.215)
2. K. Sailunaz, M. Al-Hussein, M. Shahiduzzaman, F. Anowar, **K. A. Mamun**, “CMED : Cloud based Medical System for Rural Health Monitoring in Developing Countries,” *Journal of Computers & Electrical Engineering*, 2016, Elsevier (Impact Factor: 0.817).
3. M. Mohaimenuzzaman, S. M. M. Rahman, G. Muhammad, and **K. A. Mamun**, “Enhancing Safety in Water Transport System based on Internet of Things for Developing Countries,” *International Journal of Distributed Sensor Networks*, 2016, Hindawi Publishing Corporation (Impact Factor: 0.665).
4. **K. A. Mamun**, M. AlHussein, K. Sailunaz and M. S. Islam, “Cloud Based Framework for Parkinson’s Disease Diagnosis and Monitoring System for Remote Healthcare Applications,” *Journal of Future Generation Computer Systems*, 2015, doi:10.1016/j.future.2015.11.010 (Impact Factor: 2.786).
5. **K. A. Mamun**, M. Mace, R. Vaidyanathan, M. E. Lutman, J. Stein, X. Liu, T. Aziz, and S. Wang, “Integration of neural synchronisation measures for movement decoding from deep brain local field potentials,” *Journal of Neural Engineering*, 2015, doi:10.1088/1741-2560/12/5/056011 (Impact Factor: 3.295).
6. J. Lu, **K. A. Mamun**, T. Chau, “Pattern classification to optimize the performance of Transcranial Doppler Ultrasonography based Brain Machine Interface,” *Pattern Recognition Letters*, 2015 doi:10.1016/j.patrec.2015.07.020 (Impact Factor: 1.551).
7. H. Faulkner, A. Myrden, M. Li, **K. A. Mamun**, T. Chau, “Sequential hypothesis testing for automatic detection of task-related changes in cerebral perfusion in a brain–computer interface,” *Journal of Neuroscience Research*, 2015, doi: 10.1016/j.neures.2015.06.007 (Impact Factor: 1.937).
8. **K. A. Mamun**, C. M. Steele, T. Chau, “Swallowing accelerometry signal feature variations with sensor displacement,” *Journal of Medical Engineering and Physics (Previously known as Journal of Biomedical Engineering)*, Vol 37, pp. 665-673, 2015, doi:10.1016/j.medengphy.2015.04.007 (Impact Factor: 1.825).
9. W. D. Armas, **K. A. Mamun**, T. Chau, “Vocal Frequency Estimation and Voicing State Prediction with Surface EMG Pattern Recognition,” *Journal of Speech Communication*, vol. 63-64, pp. 15-26, 2014 (Impact Factor: 1.256).
10. J. Lu, **K. A. Mamun**, T. Chau, “Online Transcranial Doppler Ultrasonographic control of an onscreen keyboard,” *Frontiers in Human Neuroscience*, 2014, doi: 10.3389/fnhum.2014.00199 (Impact Factor: 3.00).
11. B. Ghali, **K. A. Mamun**, T. Chau, “Long Term Stability of Handwriting Grip Kinetics in Adults,” *Journal of Biomechanical Engineering*, vol. 136, no. 4, pp. 1-7, 2014, doi:10.1115/1.4026641, (Impact Factor: 2.085).
12. M. Mace, N. Yousif, M. Naushahi, **K. A. Mamun**, S. Wang, D. Nandi, R. Vaidyanathan, “An automated approach towards detecting complex behaviours in deep brain oscillations,” *Journal of Neuroscience Methods*, vol. 224, pp. 66-78, Elsevier, 2014, doi: 10.1016/j.jneumeth.2013.11.019, (Impact Factor: 2.025).
13. B. Ghali, **K. A. Mamun**, T. Chau, “Grip Kinetic Profile Variability in Adult Signature Writing,” *Journal of Biometrics & Biostatistics*, vol. 4, no. 4, pp.1-6. 2013, doi:10.4172/2155-6180.1000174, (Impact Factor: 1.27).
14. M. Mace, **K. A. Mamun**, A. A. Naeem, L. Gupta, S. Wang, R. Vaidyanathan, “A heterogeneous framework for real-time decoding of bioacoustic signals: Applications to assistive interfaces and prosthesis control,” *Expert System with Applications*, vol. 40, no. 13, pp. 5049-5060, Elsevier, 2013, doi: 10.1016/j.eswa.2013.03.028, (Impact Factor: 2.240).
15. **K. A. Mamun**, M. Mace, L. Gupta, C. A. Verschuur, M. E. Lutman, M. Stokes, R. Vaidyanathan, S. Wang, “Robust Real-time Identification of Tongue Movement Commands from Interferences,” *Neurocomputing*, Elsevier, vol. 80, pp.83-92, doi: 10.1016/j.neucom.2011.09.018, March 2012, (Impact Factor: 2.083).
16. **K. A. Mamun**, F. Sarker and G. Muhammad, “A High Resolution Pitch Detection Algorithm based on AMDF and ACF,” *Journal of Scientific Research*, vol. 1, no. 3, pp.508-515, doi: 10.3329/jsr.v1i3.2569, 2009, (Impact Factor: 1.211).
17. **K. A. Mamun**, A. H. M. Sayeed, S. Yeasmin and F. Sarker, “A Novel Segmented Display for Arabic Numerals,” *Journal of Computer Science*, vol. 1, no. 1, pp. 44-47, IBAIS University, Dhaka, Bangladesh, June 2007.
18. **K. A. Mamun**, S. Ahmmed, F. Sarker, A. Y. Saber, “Segmented Display for Alphanumeric Bangla, English and Arabic Characters,” *Research Journal of Applied Sciences*, vol. 2, no. 4, pp. 522-529, March 2007.
19. S. Ahmmed, **K. A. Mamun**, M. M. Islam, “A Novel Algorithm for Designing Three Layered Artificial Neural Networks,” *International Journal of Soft Computing*, Vol. 2, Num. 3, pp. 450-458, March 2007.

20. **K. A. Mamun**, M. Mace, R. Craig, M. E. Lutman, R. Vaidyanathan, and S. Wang, “Tongue Movement Ear Pressure Signal Classification using Wavelet Packet Transform,” *International Journal of Audiology*, pp. 701, vol. 49, no. 9, Sep. 2010 (*abstract only*).

Manuscripts Under Review / Revision

1. **K. A. Mamun**, A. A.M. Rahat, M. Mace, G. Muhammad, M. S. Hossain, R. Vaidyanathan, S. Wang, T. Chau, “Multi-objective evolutionary algorithm in classifying tongue movement ear pressure signals: an application to assistive human machine interface,” *Under revision in the Journal of Pattern Recognition Letters (Impact Factor: 1.266)*.
2. M.S. Nikjoo, **K. A. Mamun**, A. Kushkia, A.J. Andrews, T. Chau, “A time-evolving reputation-based classifier for discerning physiological responses of youth with severe disabilities,” *Under review in the PLoS One Journal (Impact Factor: 3.73)*.
3. Md. Nasfikur R. Khan, Hamudi H. Sonet, Faisal Bin Shahin, A K Ehsanul H. Mashuk, S. Yesmin and Khondaker A. Mamun, “‘Bolbo Kotha’ - An Innovative and Customizable Mobile Application for Enhancing Communication Skills of Verbally Challenged Users,” *Under revision in the International Conference on International Journal of Information Technology, May, 2018*.

Manuscripts on hold due to commercialization (Medical Device)

3. **K. A. Mamun**, C. M. Steele, T. Chau, “The Effects of sensor attachment methods for capturing dual-axis swallowing accelerometry signals,” *Ready to submit in Journal of Physiological Measurement*.
4. **K. A. Mamun**, C. M. Steele, T. Chau, “Multivariate Bayesian classification for identifying pattern of healthy and pathological swallowing accelerometry signals,” *In Preparation, to be submitted to PLoS One Journal*.

Manuscripts in Preparation

5. **K. A. Mamun**, M. Mace, R. Vaidyanathan and S. Wang, “Weighted Sequential Feature Selection (WSFS): an efficient strategy to facilitate high dimensional small sample size biosignal classification,” *In Preparation, to be submitted to IEEE Transactions on Neural Systems and Rehabilitation Engineering*.
6. J. Chan, **K. A. Mamun** and T. Chau, “An online near-infrared spectroscopy brain-computer interface with instantaneous graphical and mechanical feedback,” *In Preparation, to be submitted to Journal of NeuroEngineering and Rehabilitation*.
7. E. Wan, **K. A. Mamun**, T. Chau, “A Novel Auditory-based Access Technology Using Transient Evoked Otoacoustic Emission,” *In Preparation, to be submitted to PLoS One*.
8. **K. A. Mamun**, S. Chan and T. Chau, “Tongue Movement Accelerometer: An alternative access communication pathway,” *In Preparation, to be submitted to IEEE Transactions on Human-Machine Systems*.
9. **K. A. Mamun**, E. Nguyen, W. D. Armas and T. Chau, “Dynamic topographic visualization and quantification of a multichannel surface EMG grid array,” *In Preparation, to be submitted to Journal of Electromyography & Kinesiology*.
10. A. Hassan, **K. A. Mamun**, “Brain Machine Interface Research in Developing Countries: Opportunities and Challenges,” *In Preparation, to be submitted to submitted to PLoS One*.

Refereed Conference Papers:

1. M. A. Islam, S. A. Hossain, and Khondaker A. Mamun, A Proposed Web Based Architecture for Diabetes Awareness, Prevention and Management, International Conference on Emerging Technologies in Data Mining and Information Security (IEMIS 2018) Kolkata, India, February 23 - 25, 2018.
2. T Khan, MA Masud, **Khondaker A. Mamun**, Methods to predict blood glucose level for type 2 diabetes patients, IEEE Region 10 Humanitarian Technology Conference (R10-HTC 2017), Dhaka, Bangladesh, December 21-23, 2017.
3. Md. Nasfikur R. Khan, S. H. Hasan, Fahmina Yasmin, Sarmia Yesmin, Farhana Sarker and **Khondaker A Mamun**, ‘Bolte Chai’– An Android Application for Verbally Challenged Children, *4th International Conference on Advances in Electrical Engineering (ICAEE 2017)*, Dhaka, Bangladesh, September 28-30, 2017.
4. K. Zaman and **Khondaker A. Mamun**, An evaluation of smartphone apps for preventive healthcare focusing on cardiovascular disease, *4th International Conference on Advances in Electrical Engineering (ICAEE 2017)*, Dhaka, Bangladesh, September 28-30, 2017.
5. Tasfia Shermin, Muhammad Nazrul Islam, Sadia Akter, Saborni Shernaj Binte Elahi, Wali Mohammad Abdullah and **Khondaker A. Mamun**, Virtual Eye Doc: An Android based app in Bengali language for eye health & vision examination, *International Conference on Electrical, Computer and Communication Engineering (ECCE 2017)*, Bangladesh, February 16-18, 2017.
6. **Khondaker A. Mamun**, Sharmistha Bardhan, Md. Anwar Ullah, Evdokia Anagnostou, Jessica Brian, Shaheen Akhter, Mohammad Golam Rabbani, Smart Autism - A mobile, interactive and integrated framework for

- screening and confirmation of autism, 2016. *The 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'16)*, USA, August 16-20, 2016.
7. Abu Shafin Mohammad Mahdee Jameel, **Khondaker A. Mamun**, An Algorithm to Decode Movement and Laterality From Deep Brain Local Field Potentials Utilizing Time and Frequency Domain Features, *IEEE TENCON 2016*, Singapore, November 22 – 25, 2016.
 8. Sharmistha Bardhan, Md. Anwar Ullah, Helal Uddin Ahmed, Mohammad Golam Rabbani, **Khondaker A. Mamun**, Autism Express - A cloud based framework for autism screening, confirmation and intervention, *IEEE TENCON 2016*, Singapore, November 22 – 25, 2016.
 9. Sharmistha Bardhan, G. M. Monjur Morshed Mridha, Eshtiak Ahmed, M. Anwar Ullah, Helal Uddin Ahmed, Shaheen Akhter, Md. Golam Rabbani, **Khondaker A. Mamun**, Autism Barta - A smart device based automated autism screening tool for Bangladesh, *5th International conference on Informatics, Electronics and Vision (ICIEV 2016)*, Dhaka University, Dhaka, May 13-14, 2016.
 10. Ahnaf Hassan, Mohammad Nurul Huda, Farhana Sarker, **Khondaker A. Mamun**, An overview of Brain Machine Interface research in developing countries: opportunities and challenges, *5th International conference on Informatics, Electronics and Vision (ICIEV 2016)*, Dhaka University, Dhaka, May 13-14, 2016.
 11. Rebeka Sultana, D.M. Anisuzzaman, Farhana Sarker and **Khondaker A. Mamun**, Automated Credit Scoring System for Financial services in developing countries, *1st International Conference on Advanced Information and Communication Technology 2016 (ICAICT 2016)*, Chittagong Independent University, Chittagong, Bangladesh, May 16-17, 2016.
 12. Eshtiak Ahmed, Ashraf Islam, Farhana Sarker, Mohammad Nurul Huda and **Khondaker A. Mamun**, A road to independent living with smart homes for people with disabilities, *5th International conference on Informatics, Electronics and Vision (ICIEV 2016)*, Dhaka University, Dhaka, May 13-14, 2016.
 13. Md. Tazimul Hoque, Md. Rifat-Ut-Tauwab, Md. Fashiul Kabir, Farhana Sarker, Mohammad Nurul Huda and **Khondaker A. Mamun**, Automated Bangla Sign Language Translation System: Prospects, Limitations and Applications, *5th International conference on Informatics, Electronics and Vision (ICIEV 2016)*, Dhaka University, Dhaka, May 13-14, 2016.
 14. Md. Fasihul Kabir, **Khondaker A. Mamun**, Mohammad Nurul Huda, Deep learning based parts of speech tagger for Bengali, *5th International conference on Informatics, Electronics and Vision (ICIEV 2016)*, Dhaka University, Dhaka, May 13-14, 2016.
 15. Md. Aminul Islam, Md. Fasihul Kabir, **Khondaker A. Mamun**, Mohammad Nurul Huda, Word/phrase based answer type classification for Bengali question answering system, *5th International conference on Informatics, Electronics and Vision (ICIEV 2016)*, Dhaka University, Dhaka, May 13-14, 2016.
 16. Sanjida Nasreen Tumpa, Najia Manjur, Farhana Sarker, **Khondaker A. Mamun**, Smart-NDA: A Cloud based Framework for Smart Device Integrated Automated Neurodevelopmental Disorder Screening Tool, *International Conference on Medical Engineering, Health Informatics and Technology (MediTec 2016)*, United International University, Dhaka, Bangladesh, December 17-18 2016.
 17. Mohammad Nasfikur Rahman Khan, Mohammad Nazmul Hasan, Kaiser Habib, Marufa Hossain, Farhana Sarker and **Khondaker A Mamun**, Bolte Chai: An Augmentative and Alternative Communication Device for Enhancing Communication for Nonverbal Children, *International Conference on Medical Engineering, Health Informatics and Technology (MediTec 2016)*, United International University, Dhaka, Bangladesh, December 17-18 2016.
 18. Abu Shafin Mohammad Mahdee Jameel, Mike Mace, Shouyan Wang, Ravi Vaidyanathan, **Khondaker A. Mamun**, Predicting movement and laterality from Deep Brain Local Field Potentials”, *International Conference on Medical Engineering, Health Informatics and Technology (MediTec 2016)*, United International University, Dhaka, Bangladesh, December 17-18 2016.
 19. Md. Ariful Islam, Hassan Nomani Alvi, **Khondaker A. Mamun**, DiaHealth: A smart app for complete diabetes lifestyle management, *International Conference on Medical Engineering, Health Informatics and Technology (MediTec 2016)*, United International University, Dhaka, Bangladesh, December 17-18 2016.
 20. M. A. Basar, H. N. Alvi, G. N. Bokul, M. S. Khan, F. Anwar, M. N. Huda and **K. A. Mamun**, “A Review on Diabetes Patient Lifestyle Management Using Mobile Application”, *In Proceedings of IEEE 18th International Conference on Computer & Information Technology (ICCIT 2015)*, December 2015, MIST, Dhaka, Bangladesh
 21. M. S. Rahman, M. F. Kabir, **K. A. Mamun** and M. N. Huda, “Automatic Gender Identification System for Bengali Speech”, *In Proceedings of IEEE 2nd International Conference on Electrical Information and Communication Technology (EICT-2015)*, December 2015, KUET, Khulna, Bangladesh.
 22. R. Shuvro, F. Nusrat, F. Hassan, F. Ahamed, **K. A. Mamun**, M. N. Huda, “Phonetic Features Enhancement for Bangla Automatic Speech Recognition”, *In Proceedings of IEEE 1st International Conference on Computer & Information Engineering (ICCIE 2015)*, December 2015, RUET, Rajshahi, Bangladesh.

23. S. Parveen, F. Sarker, R. Shuvro, **K. A. Mamun**, M. N. Huda, “Bangla Pronunciation Error Detection System”, *In Proceedings of IEEE 1st International Conference on Computer & Information Engineering (ICCIIE 2015)*, December 2015, RUET, Rajshahi, Bangladesh.
24. T. Akhter, S. Islam, F. Sarker, **K. A. Mamun**, “ICT to Empower People with Disabilities: Exclusion to Inclusion”, *In Proceedings of JPUF-MSW Seminar on 24th world Disability Day and 17th National Disability Day*, December 2015, Dhaka, Bangladesh.
25. M. Rifat-Ut-Tauwab, F. Sarker, M. T. Hoque, M. N. Huda, M. F. Kabir, **K. A. Mamun**, “An Evaluation of Bangla Speech to Sign Language Translation System”, *In Proceedings of JPUF-MSW Seminar on 24th world Disability Day and 17th National Disability Day*, December 2015, Dhaka, Bangladesh.
26. G. M. M. M. Mridha, , E. Ahmed, M. M. I. Bhuiyan, A. Ullah, **K. A. Mamun**, “Autism Barta: A Mobile Interactive, Community-based Automated Tool for Screening Autism”, *In Proceedings of Dhaka Conference on Disability and Disaster Risk Management, December 2015*, Dhaka, Bangladesh.
27. M. Mohaimenuzzaman, M. S. Hassan, M. Shahjahan, A. Ullah, **K. A. Mamun**, “IoT based Intelligent System for Regular as well as pre, post and during Disaster Monitoring and Support for Disables of Bangladesh”, *In Proceedings of Dhaka Conference on Disability and Disaster Risk Management, December 2015*, Dhaka, Bangladesh.
28. A. Islam, E. Ahmed, A. Islam, J. Lu, F. Sarkar, **K. A. Mamun**, “Decoding Human Brain States Using Transcranial Doppler Ultrasonography,” *2nd International Conference on Electrical Engineering and Information & Communication Technology (iCEEiCT 2015)*, Jahangirnagar University, Dhaka.
29. F. Ahamed, **K. A. Mamun**, S. Ahmmed, M. N. Huda, M. Z. Rahman, Finger Movement Detection and Classification for Patients having Parkinson’s Disease,” *2nd International Conference on Electrical Engineering and Information & Communication Technology (iCEEiCT 2015)*, Jahangirnagar University, Dhaka.
30. M. Islam, **K. A. Mamun**, M. Khan and H. Deng, “Decoding movements from human deep brain local field potentials using radial basis function neural network,” *The IEEE 27th international symposium on Computer-based medical systems (IEEE CBMS 2014)*, Icahn School of Medicine at Mount Sinai, New York, USA, May 27-29, 2014.
31. B. Ghali, **K. A. Mamun**, T. Chau, “Variation of grip force profile during signature writing,” *The IEEE Canadian Conference on Electrical and Computer Engineering 2014 (CCECE 2014)*, Toronto, Ontario, Canada, May 4-7, 2014.
32. F. Anowar, M. A. Helal, S. Afroj, S. Sultana, F. Sarker and **K. A. Mamun**, “A critical review on World University ranking in terms of top four ranking systems,” *International Conferences on Engineering Education, Instructional Technology, Assessment, & E-learning in the 9th Annual International Joint Conferences on Computer, Information, Systems Sciences, & Engineering* (will be included in the Springer Book), Connecticut, USA, Dec 12-14, 2013.
33. M. Islam, **K. A. Mamun**, M. Khan and H. Deng, “Performance assessment of artificial neural network classifier for predicting movement and laterality of deep brain local field potential,” *3rd workshop on Machine learning and interpretation in neuroimaging (MLINI 2013) in Neural information processing systems (NIPS 2013)*, Nevada, USA, Dec 9-10, 2013.
34. **K. A. Mamun**, M. N. Huda, M. Mace, R. Vaidyanathan, M. E. Lutman, J. Stein, X. Liu, T. Aziz, and S. Wang, “Pattern Classification of Deep Brain Local Field Potentials for Brain Computer Interfaces,” *15th International Conference on Computer And Information Technology (ICCIT 2012)*, Chittagong, Bangladesh, Dec. 22-24, 2012.
35. **K. A. Mamun**, M. Mace, R. Vaidyanathan, M. E. Lutman, J. Stein, X. Liu, T. Aziz, and S. Wang, “A Robust Strategy for Decoding Movements from Deep Brain Local Field Potentials to Facilitate Brain Machine Interfaces,” *Fourth IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechanics*, Roma, Italy, Jun 24-28, 2012.
36. M. Mace, **K. A. Mamun**, Shouyan Wang, Lalit Gupta and Ravi Vaidyanathan, "Ensemble classification for robust discrimination of multi-channel, multi-class tongue-movement ear pressure signal," *33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS 2011)*, Boston, USA, Aug 30-Sep 3, 2011.
37. **K. A. Mamun**, R. Vaidyanathan, M. E. Lutman, J. Stein, X. Liu, T. Aziz, and S. Wang, “Decoding Movement and Laterality from Local Field Potentials in the Subthalamic Nucleus,” *In Proc. of the 5th International IEEE EMBS Conference on Neural Engineering*, Cancun, Mexico, Apr. 27- May 1, 2011.
38. **K. A. Mamun**, M. Banik, M. Mace, M. E. Lutman, R. Vaidyanathan and S. Wang, "Multi-layer Neural Network Classification of Tongue Movement Ear Pressure Signal for Human Machine Interface," *In Proc. of the 13th International Conference on Computer And Information Technology (ICCIT 2010)*, Dhaka, Bangladesh, Dec. 23-25, 2010.

39. M. Mace, **K. A. Mamun**, Ravi Vaidyanathan, Shouyan Wang and Lalit Gupta, "Real-time implementation of a non-invasive tongue-based human-robot interface," *In Proc. of the 2010 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2010)*, Taipei International Convention Center, Taipei, Taiwan, Oct. 18-22, 2010.
40. **K. A. Mamun**, M. Mace, M. E. Lutman, R. Vaidyanathan, and S. Wang, "SVM Classification of Tongue Movement Ear Pressure Signals for Human Machine Interface," *INSPIRE 2010*, University College London (UCL), London, UK, Sep. 6-8, 2010.
41. M. Mace, **K. A. Mamun**, S. Wang, L. Gupta and R. Vaidyanathan, "Human-Machine Interface for Tele-Robotic Operation using Tongue Movement Ear Pressure (TMEP) Signals," *In Proc. of the 11th Conference Towards Autonomous Robotic Systems*, Plymouth, UK, Aug. 31- Sep 2, 2010.
42. **K. A. Mamun**, M. Mace, M. E. Lutman, R. Vaidyanathan, L. Gupta and S. Wang, "Multivariate Bayesian Classification of Tongue Movement Ear Pressure Signals Based on the Wavelet Packet Transform," *In Proc. of the 2010 IEEE Int. Workshop on Machine Learning for Signal Processing*, Finland, Aug 29- Sep 1, 2010. (Selected as one of the best papers).
43. **K. A. Mamun**, M. Mace, M. E. Lutman, R. Vaidyanathan, and S. Wang, "Bayesian Classification of Tongue Movement Based on Wavelet Packet Transformation," *INSPIRE 2009*, Imperial College London, London, UK, September 2009.
44. **K. A. Mamun**, M. Mace, M. E. Lutman, R. Vaidyanathan, and S. Wang, "Pattern Classification of Tongue Movement Ear Pressure Signal based on Wavelet Packet Feature Extraction," *In Proc. of the 5th UK & RI Postgraduate Conference in Biomedical Engineering & Medical Physics*, pp. 33-34, Magdalen College, Oxford University, Oxford, UK, July 2009.
45. Y. A. Alotaibi, **K. A. Mamun** and G. Muhammad, "Noise Effect of Saudi Accented Arabic Alphadigit in Automatic Speech Recognition," *In Proc. of the 2009 International Conference on Image Processing, Computer Vision, and Pattern Recognition (ICCV'09)*, Las Vegas, Nevada, USA, July 2009.
46. S. S. Al-Dahri, Y. H. Al-Jassar, Y. A. Alotaibi, M. M. Alsulaiman, **K. A. Mamun**, "A Word-Dependent Automatic Arabic Speaker Identification System," *In Proc. of the 8th IEEE International Symposium on Signal Processing and Information Technology (ISSPIT 2008)*, Sarajevo, Bosnia & Herzegovnia, December 2008.
47. Y. A. Alotaibi, **K. A. Mamun** and G. Muhammad, "Study on unique Pharyngeal and Uvular consonants in foreign accented Arabic," *In Proc. of the INTERSPEECH 2008*, pp. 751-754, Brisbane, Australia, September, 2008.
48. G. Muhammad and **K. A. Mamun**, "Real-time pitch extraction in noisy environment," *In Proc. of the National Information Technology symposium (NITS'08)*, King Saud University (KSU), Riyadh, Saudi Arabia, September 2008, (held on March 2009).
49. **K. A. Mamun** and G. Muhammad, "Improved Noise Reduction with Pitch-Enabled Voice Activity Detection," *In Proc. of the IEEE 4th International Symposium on Image/Video Communications over fixed and mobile networks (ISIVC2008)*, Bilbao, Spain, July 2008.
50. A. Y. Saber, S. Ahmmed and **K. A. Mamun**, "Constrained Non-linear Optimization by Modified Particle Swarm Optimization," *In Proc. of the 10th International Conference on Computer and Information Technology (ICCIT 2007)*, Dhaka, Bangladesh, December 2007.
51. **K. A. Mamun**, N. K. Siddika, M. F. Al-Ameen, F. Sarker and M. M. Akbar, "Segment and Semi Circle Based Geometric Characters of Bangla and An Efficient Relevant Method of Character Recognition," *In Proc. of the 4th International Conference on Electrical and Computer Engineering (ICECE 2006)*, pp. 193-196, Dhaka, Bangladesh, December 2006.
52. F. Jahan, M. F. Al-Ameen and **K. A. Mamun**, "Partial Matching of Bangla Words," *In Proc. of the 4th International Conference on Electrical and Computer Engineering (ICECE 2006)*, pp. 189-193, Dhaka, Bangladesh, December 2006.
53. M. S. Alam, M. A. Rahman, **K. A. Mamun** and M. M. Islam, "A Novel Framework for Emphasizing Both Exploitation and Exploration in Evolutionary Algorithms," *In Proc. of the 9th International Conference on Computer and Information Technology (ICCIT 2006)*, pp. 45-50, Dhaka, Bangladesh, December 2006.
54. **K. A. Mamun**, M. N. Huda, M. M. Akbar and M. Kaykobad, "A memory efficient Huffman coding," *In Proc. of the MMU International Symposium on Information & Communication Technologies (M²USIC 2006)*, pp. 145-150, Petaling Jaya, Malaysia, November 2006.
55. **K. A. Mamun** and M. S. Hossain, "Rectangle & Circle Based Geometric Characters of Bangla & English and An Efficient Relevant Method of Size Independent Character Recognition," *In Proc. of the MMU International Symposium on Information & Communication Technologies (M²USIC 2006)*, pp. 70-76, Petaling Jaya, Malaysia, November 2006.

56. M. F. Al-Ameen, F. Jahan and **K. A. Mamun**, “Fuzzy Matching of Bangla Words,” *In Proc. of the MMU International Symposium on Information & Communication Technologies (M²USIC 2006)*, pp. 64-69, Petaling Jaya, Malaysia, November 2006.
57. M. N. Huda, M. Banik, **K. A. Mamun**, “A new technique for solving non-linear equations,” *In Proc. of the 3rd International Conference on Electrical, Electronics and Computer Engineering (ICEECE 2003)*, pp. 126-129, Dhaka, Bangladesh, December 2003.
58. M. Banik, M. N. Huda, **K. A. Mamun**, and M. Arifuzzaman, “A new technique for generalized matrix search,” *In Proc. of the 3rd International Conference on Electrical, Electronics and Computer Engineering (ICEECE 2003)*, pp. 130-135, Dhaka, Bangladesh, December 2003.

Refereed Conference Abstracts/ Extended Abstracts / Short paper:

1. Farhana Sarker, M. Mahruf C. Shohel, Farzana Anowar, Md Shamsul Alam, **Khondaker A. Mamun**, “University Ranking System for Developing Countries: A Proposed Framework”, *2nd International Higher Education Studies Conference (IHEC 2017)*, Antalya, Turkey, October 12-14, 2017.
2. **K. A. Mamun**, Elizabeth Nguyen, Winston De Armas, Tom Chau, “Dyanamic Topographic Visualization and Quantification of a Multichannel Surface EMG Grid Array,” *In Proc. of the International Conference on Physics in Medicine and Clinical Neuroelectrophysiology (PMCN2015)*, pp. 103, Dhaka, Bangladesh, February 2015.
3. Eshtiak Ahmed, Ashraful Islam, Lucy Lu, **K. A. Mamun**, “Identification of Cognitive States based on Transcranial Doppler Ultrasonography,” *In Proc. of the International Conference on Physics in Medicine and Clinical Neuroelectrophysiology (PMCN2015)*, pp. 115, Dhaka, Bangladesh, February 2015.
4. S. Ahmed, F. Ahmed, M. Mace, R. Vaidyanathan, J. Stein, T. Aziz, S. Wang, **K. A. Mamun**, “Decoding Movements from Human Subthalamic Local Field Potentials Based on Neural Synchronization,” *In Proc. of the International Conference on Physics in Medicine and Clinical Neuroelectrophysiology (PMCN2015)*, pp. 82, Dhaka, Bangladesh, February 2015.
5. Ashraful Islam, Farzana Anowar, Eshtiak Ahmed, **K. A. Mamun**, “Smart Green Home: An Intelligent Way to Lead a Better Life,” *In Proc. of 2nd National Conference on Natural Sciences and Technology (NCNST2015)*, Chittagong, Bangladesh, April 2015.
6. Ashraful Islam, Eshtiak Ahmed, Lucy Lu, **K. A. Mamun**, “Transcranial Doppler Ultrasonography A Non-invasive Approach for Identifying Human Brain States,” *In Proc. of 2nd National Conference on Natural Sciences and Technology (NCNST2015)*, Chittagong, Bangladesh, April 2015.
7. Ashfaul Islam, Ashraful Islam, Farhana Sarker, **K. A. Mamun**, “E-learning: The Revolution of Distance Learning in Bangladesh,” *In Proc. of 2nd National Conference on Natural Sciences and Technology (NCNST2015)*, Chittagong, Bangladesh, April 2015.
8. S. Ahmmed, F. Ahamed, **K. A. Mamun**, “Determining the Movements from Deep Brain Signals of Human Brain,” *In Proc. of the National Conference on Physics Education and Research in Bangladesh, Dhaka, Bangladesh, April 2015.*
9. F. Hoque, A. Islam, E. Ahmed, F. Anowar, **K. A. Mamun**, “Assistive Human Machine Interface using Tongue-Movement Ear Pressure Signals,” *In Proc. of the National Conference on Physics Education and Research in Bangladesh, Dhaka, Bangladesh, April 2015.*
10. A. Islam, E. Ahmed, F. Anowar, J. Lu, **K. A. Mamun**, “Decoding Cognitive States of Human Brain using Transcranial Doppler Ultrasonography,” *In Proc. of the National Conference on Physics Education and Research in Bangladesh, Dhaka, Bangladesh, April 2015.*
11. **K. A. Mamun**, S. Chan and T. Chau, “Tongue Movement Accelerometer: An alternative access pathway,” *8th Annual BRI Symposium*, Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital, Toronto, Canada, Nov 12, 2013.
12. **K. A. Mamun**, E. Nguyen, W. D. Armas and T. Chau, “Dynamic topographic visualization and quantification of a multichannel surface EMG grid array,” *8th Annual BRI Symposium*, Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital, Toronto, Canada, Nov 12, 2013.
13. T. W. C. Hang, **K. A. Mamun**, and T. Chau, “Characterizing physiological pattern of peripheral nervous system for activity engagement in youth with severe disabilities” *7th Ward Student Research Day*, Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital, Toronto, Canada, Jul 23, 2013.
14. **K. A. Mamun**, C. M. Steele, T. Chau, “The effects of varying sensor position on dual-axis swallowing accelerometry signals,” *21st Dysphagia Research society Annual Meeting*, Seattle, Washington, USA, Mar 14-16, 2013.

15. **K. A. Mamun**, M. Mace, M. E. Lutman, R. Vaidyanathan, J. Stein, X. Liu, T. Aziz, and S. Wang, “Decoding Movement and Laterality from Human Subthalamic Local Field Potentials for Neuro-Prosthetic Applications,” *2011 International UKIERI Workshop on the Fusion of Brain-Computer Interface and Assistive Robotics*, Londonderry, Northern Ireland, UK, Jul 7- 8, 2011.
16. **K. A. Mamun**, M. Mace, M. E. Lutman, R. Vaidyanathan, J. Stein, X. Liu, T. Aziz, and S. Wang, “Decoding Movements from Human Subthalamic Local Field Potentials based on Neural Synchronization,” *9th Annual Southampton Neurosciences Group (SoNG) Meeting*, University of Southampton, Southampton, UK, Sep. 22, 2011.
17. **K. A. Mamun**, M. E. Lutman, R. Vaidyanathan, J. Stein, X. Liu, T. Aziz, and S. Wang, “Recognition of Voluntary Movement from Human Subthalamic Activity for Brain Computer Interface,” *SET for BRITAIN 2011*, The House of Commons, UK, March 14, 2011.
18. **K. A. Mamun**, M. E. Lutman, R. Vaidyanathan, J. Stein, X. Liu, T. Aziz, and S. Wang, “Recognition of Voluntary Movement from Human Subthalamic Activity for Brain Machine Interface,” *Multidisciplinary Postgraduate Research Showcase*, University of Southampton, UK, March 31, 2011.
19. **K. A. Mamun**, M. E. Lutman, R. Vaidyanathan, J. Stein, X. Liu, T. Aziz, and S. Wang, “Recognition of the Laterality of Voluntary Movement from Subthalamic Activity,” *8th Annual Southampton Neurosciences Group (SoNG) Meeting*, University of Southampton, Southampton, UK, Sep. 23, 2010.
20. **K. A. Mamun**, M. E. Lutmen, R. Vaidyanathan, and S. Wang, “Tongue Movement: A Novel Concept for Assistive HMI,” *FESM Postgraduate Research Showcase 2010*, University of Southampton, UK, May 6, 2010.
21. **K. A. Mamun**, M. Mace, M. E. Lutmen, R. Vaidyanathan, and S. Wang, “State Identification of Tongue Movement Signals,” *Mathematical Neuroscience 2010*, Edinburgh, UK, Apr. 19-21, 2010.
22. **K. A. Mamun**, M. Mace, R. Craig, M. E. Lutmen, R. Vaidyanathan, and S. Wang, “Tongue movement ear pressure signal classification using wavelet packet transform,” *British Society of Audiology Short Papers Meeting on Experimental Studies of Hearing and Deafness*, pp. 138-139, University of Southampton, Southampton, UK, Sep. 17-18, 2009.
23. **K. A. Mamun**, M. Mace, R. Craig, M. E. Lutmen, R. Vaidyanathan, and S. Wang, “Tongue movement as new way of communication for rehabilitation systems,” PhD Presentation Day, Human Sciences Group, ISVR, University of Southampton, UK, July 1, 2009.

News Articles/Magazines

1. K. A. Mamun, “**Deep Brain Stimulation** (ডিপ ব্রেন স্টিমুলেশন)”, The Daily Inqilab, 22 September 2017.
2. K. A. Mamun, “**Deep Brain Stimulation: A light of hope for Parkinson's patients**”, The Asian Age, 19 September 2017.
3. K. A. Mamun & Abu Sahfin Moahmmod Mahdee Jamel “**Deep Brain Stimulation: A Chance to Thrive**”, The Daily Star 24 September 2017.
4. K. A. Mamun, “**In Parkinson's 1600 people died in country** (দেশে পারকিনসন্স বছরে ১৬০০ মানুষের মৃত্যু!)”, The Daily Kaler Khonto, 19 September 2017.
5. K. A. Mamun, “**Good news for Parkinson's patients, DBS (Deep Brain Stimulation)** (পারকিনসন্স রোগীর জন্য সুখবর)”, The Daily Noya Diginto, 18 September 2017
6. K. A. Mamun, “**Deep Brain Stimulation : A light of hope for Parkinson's patients**”, The Daily Sun, 17 September 2017
7. K. A. Mamun, “**Good news for Parkinson's patients, DBS (Deep Brain Stimulation)** (পারকিনসন্স রোগীর জন্য সুখবর)”, The Daily Manab Jomin, 13 September 2017
8. K. A. Mamun, “**Deep Brain Stimulation: A light of hope for Parkinson's patients** (ডিপ ব্রেন স্টিমুলেশন: পারকিনসন্স ডিজিজে আক্রান্ত রোগীর জন্য আশার আলো)”, The Daily Manob Kontho, 24 September 2017.
9. K. A. Mamun, “**Deep Brain Stimulation: A light of hope for Parkinson's patients**, The Daily Observer, 24 September 2017.
10. K. A. Mamun, “Smart Home: The Future, or a Dream?”, Market Pulse, LBSL Research Publication, Issue 103, pp. 79-81, August 2015.

Research Work and Contribution Featured in News Media

- Maasranga TV (Ranga Shakal)
<https://www.youtube.com/watch?v=deYjt96Fadc>

- RTV (Hat Bariye Dilam Ep 110 and Ep 111)
<https://www.youtube.com/watch?v=JLY68Yc-6iw>
- Somoy TV (Parkinson)
<https://www.youtube.com/watch?v=5Qgsu0NpC4M>
- New Scientist
<http://www.newscientist.com/article/dn19790-tongue-clicks-to-control-wheelchairs.html#.UzIB1fldXwg>
- BBC
<https://www.youtube.com/watch?v=C-DjZ8saufg>, <https://www.youtube.com/watch?v=TBHbkx0809E>

Technical Skills

- Programming: Matlab, C/C++, Assembly, Visual C++, Visual C#, Python, SPSS, Origin Lab and OpenGL.
- Database Languages: Oracle, MySQL, Microsoft Access.
- Operating System: Windows, IOS, LINUX (basic)
- Application: MS Office, Latex.
- Certification: Cisco Certified Network Associate (CCNA), Fundamentals of Wireless Local Area Network (FWL), Cisco Certified Academy Instructor (CCAI).

Professional Memberships

1. Fellow, Bangladesh Computer Society (BCS).
2. Member, Institute of Electrical and Electronics Engineers (IEEE).
3. Member, IEEE Engineering in Medicine and Biology Society (IEEE EMBS).
4. Member, Institute of Engineer's Bangladesh (IEB).
5. Member, Bangladesh Clinical Neuro Electro Physiology Society (BCNEPS)

Awards, Honors and Scholarship

1. Winner of Global Innovation Award, SeedStars World, Switzerland (Positioned as top innovation among 67 startups from 67 countries).
2. Asia Pacific ICT Alliance (APICTA) Award 2017 (Research and Development Category): Bolte Chai-Digital Communication App for Autistic and NDD Non-Verbal Children. This project was funded by ICT Division, GoB.
3. Asia Pacific ICT Alliance (APICTA) Award 2017 (Inclusion and Community Category): Autism Barta-A smart phone app for screening Autism in Bangladesh. This project was funded by A2I, PM Office, GoB.
4. BASIS National ICT Award 2017 (Research and Development Category): Bolte Chai-Digital Communication App for Autistic and NDD Non-Verbal Children. This project was funded by ICT Division, GoB.
5. BASIS National ICT Award 2017 (Health and Wellbeing Category): CMED Health-IoT based smart health monitoring system to reduce health risk and healthcare cost. This project was initially funded by ICT Division, GoB and now working as a Preventive Healthcare Startup in partnership with Grameen Phone. An example of Research Commercialization in Bangladesh.
6. BASIS National ICT Award 2017 (Inclusion and Community Category): Autism Barta-A smart phone app for screening Autism in Bangladesh. This project was funded by A2I, PM Office, GoB.
7. National Mobile App Award 2016 (Inclusion category): Autism Barta-A smart phone app for screening Autism in Bangladesh. This project was funded by A2I, PM Office, GoB.
8. Earned position in Marquis Who's Who in the World 31th Edition, 2014.
9. Full grants for attending international conferences (PGBioMed 2009, Oxford University, UK [GBP. 300]; INSPIRE 2009, Imperial College London, UK [GBP. 200]; INSPIRE 2010, University College London, UK [GBP. 200]; MLSP 2010, Finland [GBP. 1200]; SET for BRITAIN 2011, House of Commons, London, UK [GBP. 200]) from Engineering and Physical Sciences Research Council (EPSRC), UK.
10. Full grant for attending CINN Summer School 2010 (University of Reading, UK) from Mathematical Neuroscience Network (MNN), UK [GBP. 500].
11. Full grant for attending workshop (Mathematical Neuroscience 2010, Edinburgh, UK) from Mathematical Neuroscience Network (MNN), UK [GBP. 300].
12. PhD Scholarship (The Lord Rayleigh Scholarship and EPSRC Grant), 2008 - 2011, Institute of Sound and Vibration Research (ISVR), University of Southampton, UK [GBP. 80,000].
13. International Doctoral Scholarship, October 2008, Gipsa-lab, Grenoble INP, France (declined).

14. Full grants for attending international conferences (ISIVC '08, Spain; INTERSPEECH '08, Australia) from Prince Sultan Bin Abdulaziz International Program for Distinguished Research Grants, King Saud University, KSA [SAR. 25,000].
15. Prince Sultan Bin Abdulaziz International Program for Distinguished Research Scholarship, King Saud University, KSA for research, 2007 – 2008 [SAR. 60,000].
16. International Doctoral Studentship Award, October 2007, Telecommunications software and systems group, Waterford Institute of Technology, Ireland (declined).
17. Full grant for attending and completing Fundamentals of Wireless Local Area Network (FWL) instructor Training (University of Indonesia, Jakarta, Indonesia, 2007) from USAID and Ahsanullah University of Science and Technology, Dhaka, Bangladesh [BDT. 70,000].
18. Partial grants for attending international conferences (M2USIC '06, Malaysia; ICECE 06, Bangladesh) from Ahsanullah University of Science and Technology, Dhaka, Bangladesh [BDT. 30,000].
19. Full grant for completing CCNA instructor Training (BUET, Bangladesh 2004) from Ahsanullah University of Science and Technology, Dhaka, Bangladesh [BDT. 24,000].
20. Dean's Award and Tuition Fee Scholarship for the full four years of the undergraduate study from Ahsanullah University of Science and Technology, Dhaka, Bangladesh, 1999-2002 [BDT. 135,000].
21. Achieved "**Khanbahadur Ahsanullah Podak (Gold Medal)**" for securing the highest CGPA (3.931 on a scale of 4.0, Top position) in the Bachelor Degree program of the year 2002.

Keynote/Invited talks & presentations (except conference presentation)

1. *Transformation of Healthcare in Digital Space & its Future*, Technocracy 2018, Rajshahi University of Engineering & Technology, June 28, 2018.
2. *The Future of Healthcare*, Medicon Bangladesh 2018, International Convention City Bashundara (ICCB) on may 03, 2018.
3. *Brain Machine Interface: A Translational Neural Engineering Technology for Treatment and Rehabilitation of Neural Disorders*, IBRO APRC NeuroScience Workshop & Brain Symposium in Bangladesh (IBRO APRC 2017), Dhaka on September 23-27, 2017.
4. *Listening to Self-Advocates: নিউরো-ডেভেলপমেন্টাল প্রতিবন্ধী ব্যক্তি: কাজের সুযোগ ও উপযোগী পরিবেশ*, Organized by the Society for Education and inclusion of the Disabled (SEID) and The Daily Samakal at The Daily Samakal Office, January 22, 2018.
5. *Transformation of Healthcare in Digital Space & Its Future*, Digital world 2017 at Media Bazaar, Bangabandhu International Conference Center (BICC) on December 07, 2017.
6. *E-Health Network and Systems: The Reality, Achievement and Gap*, International Conference on Networking Systems and Security (4th NSysS) on December 18-20, 2017.
7. *Trends in Research and Application of Biomedical Engineering*, International Conference on Biomedical Engineering, Khulna University of Engineering & Technology, May 19-20, 2017.
8. *How internet of things (IoT) change our life*, National IoT Conference organized by Bangladesh Innovation Forum, Daffodil International University, May 6, 2017.
9. *Listening to Self-Advocates: Attitude towards disabilities need changing*, Organized by the Society for Education and inclusion of the Disabled (SEID) and Dhaka Tribune at Dhaka Tribune Office, December 20, 2016.
10. *Brain Machine Interface: A Translational Neural Engineering Technology for Treatment and Rehabilitation of Neural Disorders*, IEEE – EMBS 2016 International Conference on Medical Engineering, Health Informatics and Technology (MediTec2016), Dhaka on December 17-18, 2016.
11. *Brain Machine Interface: A Translational Neural Engineering Technology for Treatment and Rehabilitation of Neural Disorders*, Department of Electrical and Electronic Engineering (EEE) of Independent University, Bangladesh (IUB) on October 5, 2016.
12. *Brain Machine Interface: A Translational Neural Engineering Technology for Treatment and Rehabilitation of Neural Disorders*, APRC Lecturer Exchange Program 2016, IBRO-APRC Associate School of Neuroscience : Translational Neuroscience, Naresuan University, Phitsanulok, Thailand, July 4-8, 2016
13. *Introduction to Computational Neuroscience and Neural Engineering*, 20th Thai Neuroscience Society International Conference at Naresuan University, Thailand, July 9, 2016
14. *Brain Machine Interface (BMI) - The Future, or a Dream*, Rajanukul Institute and AIT, Bangkok, July 2, 2016

15. *Listening to Self-Advocates: The Need to Include People with Neuro developmental Disability in Decision Making*, Organized by the Society for Education and inclusion of the Disabled (SEID) and Dhaka Tribune at University of Liberal Arts Bangladesh, December 26, 2015.
16. *ICT Accessibility for Personal Disability Challenges and Solutions*, United International University, Dhaka, Bangladesh, March 08, 2015.
17. *Global ICT Trends: Changing Lives & Behaviors*, Hajee Mohammad Danesh Science & Technology University, June 9, 2015.
18. *Brain Machine Interface (BMI): Advancement of Human Machine Interface for Rehabilitation Engineering*, United International University, Dhaka, Bangladesh, August 27, 2015.
19. *Brain Machine Interface (BMI)*, Department Computer and Science Engineering, Military Institute of Science and Technology, Dhaka, Bangladesh, July 29, 2015.
20. *Advancement of Human Machine Interface for Rehabilitation Engineering*, Department Computer and Science Engineering, University of Liberal Arts Bangladesh, May 9, 2015.
21. *Intelligent Systems for Medical Engineering and Rehabilitation Applications*, International Conference on Physics in Medicine and Clinical Neuroelectrophysiology (PMCN), University of Dhaka, February 19-20, 2015.
22. *Multidisciplinary Intelligent Systems for Medical Engineering and Rehabilitation Applications*, Department of Electrical and Computer Engineering, Florida International University, USA, July 2, 2014.
23. *An overview of Brain Machine Interface and Biomedical Engineering*, Department of Computer Science and Engineering, Ahsanullah University of Science and Technology, Dhaka, Bangladesh, January 22, 2013.
24. *Advancement of Human Machine Interface for Rehabilitation Engineering*, Department of Biomedical Physics & Technology, University of Dhaka, Dhaka, Bangladesh, January 8, 2013.
25. *Pattern Identification of Movement Related States in Biosignals*, PRISM Lab, Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital, Toronto, Ontario, Canada, July 20, 2012.
26. *Decoding movement related states in bio-signals*, Brains & Behavior Lab, Dept. of Bioengineering, Imperial College London (ICL), London, UK, December 8, 2011.
27. *Feature extraction and pattern identification of movement related states in bio-signals*, Motor Control Group, Institute of Cognitive Neuroscience, University College London (UCL), London, UK, October 13, 2011.
28. *Pattern Classification of Movement and Laterality from Local Field Potentials in the Subthalamic Nucleus*, Functional Neurosurgery and Experimental Neurology (FNEN) Group, University of Oxford, UK, March 25, 2011.
29. *Recognition of Voluntary Movement from Human Subthalamic Activity for Brain Computer Interfaces*, SET for BRITAIN 2011, The House of Commons, UK, March 14, 2011.
30. *Pattern Classification of Movement related States in Biosignals*, Human Sciences Group, ISVR, University of Southampton, UK, March 8, 2011.
31. *Classification of Visually Cued Movement Related Subthalamic Activity for Brain Computer Interface*, INSPIRE 2010, University College London (UCL), London, UK, September 7, 2010.
32. *Tongue Movement: A Novel Concept for Assistive HMI*, FESM Postgraduate Research Showcase 2010, University of Southampton, UK, May 6, 2010.
33. *Evolution of Brain Computer Interface (BCI)*, HABC, ISVR, University of Southampton, Southampton, UK, December 1, 2009.
34. *Tongue movement as a new way of communication for rehabilitation systems*, PhD Presentation Day, Human Sciences Group, ISVR, University of Southampton, UK, July 1, 2009.
35. *Human-Machine Interface for Rehabilitation Systems Based on Tongue-Movement*, HABC, ISVR, University of Southampton, Southampton, UK, March 24, 2009.
36. *Career Prospects for CISCO Networking Professionals*, United International University, Dhaka, Bangladesh, June 18, 2007.

Conference Presentations

1. *A Review on Diabetes Patient Lifestyle Management Using Mobile Application*, 18th International Conference on Computer & Information Technology (ICCIT 2015), MIST, Dhaka, December 23, 2015
2. *Autism Barta: A Mobile Interactive, Community-based Automated Tool for Screening Autism*, Dhaka Conference on Disability and Disaster Risk Management, December 13, 2015, Dhaka, Bangladesh.

3. *IoT based Intelligent System for Regular as well as pre, post and during Disaster Monitoring and Support for Disables of Bangladesh*, Dhaka Conference on Disability and Disaster Risk Management, December 14, 2015, Dhaka, Bangladesh.
4. *ICT to Empower People with Disabilities: Exclusion to Inclusion*, JPUF-MSW Seminar on 24th world Disability Day and 17th National Disability Day, December 6, 2015, Dhaka, Bangladesh.
5. *An Evaluation of Bangla Speech to Sign Language Translation System*, JPUF-MSW Seminar on 24th world Disability Day and 17th National Disability Day, December 7, 2015, Dhaka, Bangladesh.
6. *Decoding Human Brain States Using Transcranial Doppler Ultrasonography*, 2nd International Conference on Electrical Engineering and Information & Communication Technology (iCEEICT 2015), Jahangirnagar University, Dhaka, May 23, 2015.
7. *A critical review on World University ranking in terms of top four ranking systems*, International Conferences on Engineering Education, Instructional Technology, Assessment, & E-learning in the 9th Annual International Joint Conferences on Computer, Information, Systems Sciences, & Engineering, Connecticut, USA, Dec 14, 2013.
8. *SVM Classification of Tongue Movement Ear Pressure Signals for Human Machine Interface*,” INSPIRE 2010, University College London (UCL), London, UK, Sep. 7, 2010.
9. *Multivariate Bayesian Classification of Tongue Movement Ear Pressure Signals Based on the Wavelet Packet Transform*, IEEE Int. Workshop on Machine Learning for Signal Processing, Finland, Aug 30, 2010.
10. *Bayesian Classification of Tongue Movement Based on Wavelet Packet Transformation*,” INSPIRE 2009, Imperial College London, London, UK, Sep. 8 2009.
11. *Pattern Classification of Tongue Movement Ear Pressure Signal based on Wavelet Packet Feature Extraction*, 5th UK & RI Postgraduate Conference in Biomedical Engineering & Medical Physics, Magdalen College, Oxford University, Oxford, UK, Jul. 13, 2009.
12. *Study on unique Pharyngeal and Uvular consonants in foreign accented Arabic*, INTERSPEECH 2008, Brisbane, Australia, Sep. 25, 2008.
13. *Improved Noise Reduction with Pitch-Enabled Voice Activity Detection*, IEEE 4th International Symposium on Image/Video Communications over fixed and mobile networks (ISIVC2008), Bilbao, Spain, Jul 10 2008.
14. *Segment and Semi Circle Based Geometric Characters of Bangla and An Efficient Relevant Method of Character Recognition*, 4th International Conference on Electrical and Computer Engineering (ICECE 2006), Dhaka, Bangladesh, December 2006.
15. *A memory efficient Huffman coding*, MMU International Symposium on Information & Communication Technologies (M²USIC 2006), Petaling Jaya, Malaysia, November 2006.

Research Funding

- Principal Investigator, Project title: ***PVDoctor: Cloud based Virtual Doctor for Parkinson's Disease Screening and Monitoring***, Received funding (Taka 10,00,000) from ICT Division, MoPTIT, Bangladesh.
- Principal Investigator, Project title: ***What Next: An analytics-based intelligent system to help H.S.C students identify the best possible educational institutions for higher education and career pathways according to their merit and fields of interest***, Received funding (Taka 12,00,000) from ICT Division, MoPTIT, Bangladesh.
- Principal Organizer, **First IBRO APRC NeuroScience Workshop & Brain Symposium in Bangladesh**. Received funding (Taka 20,00,000) form IBRO APRC.
- Principal Investigator, Project title: ***Autism Barta: A Mobile Interactive Screening Mechanism for Autism in Rural Bangladesh***, Received funding (Taka 24,50,000) from A2I, PMO, and (Taka 17,95,000) from, JPUF, MOoSW, Bangladesh.
- Principal Investigator, Project title: ***Virtual Health Services: A Cloud Based Health Service Network for Developing Countries***, Received funding (Taka 10,00,000) from ICT Division, MoPTIT, Bangladesh.
- Principal Investigator, Project title: ***Bolte Chai-Development of digital communication tools for autistic and NDD non-verbal children***, Received funding (Taka 15,00,000) from ICT Division, MoPTIT, Bangladesh.
- Principal Investigator, Project title: ***Investigations to enhance movement decoding performance from neural signals towards development of brain machine interface (BMI)***, Received funding (Taka 5,50,000) from United International University Research Fund, Dhaka, Bangladesh.
- Co-Investigator, Project title: ***Bangla Onubad: An English to Bengali Machine Translator***, Received funding (Taka 5,10,000) from United International University Research Fund, Dhaka, Bangladesh.
- Co-Investigator, Project title: ***Remote Monitoring and Prepaid Billing of Solar Irrigation System (Under Research and Development of Smart Solar Irrigation suitable for Bangladesh Project)***, Received funding (Taka 79,86,600) from Infrastructure Development Company Limited (IDCOL), Dhaka, Bangladesh.

- Investigator, Project title: ***Dynamic topographic visualization and quantification of a multichannel surface EMG grid array***, Received funding (CD \$ 25,000) from Natural Sciences and Engineering Research Council of Canada, Canada.
- Co-Principal investigator, Project title: ***Smart Deep Brain Stimulator (SDBS): Towards Future Adaptive Brain Machine Brain Interface (BMBI) for Therapeutic Interventions of Parkinson and Other Motor Disorders***, Applied for funding (US \$ 6,00,000) to National Institutes of Health (NIH), USA in collaboration with principal investigator **Dr. Hai Deng**, Assistant Professor, Director of Sensor Research Lab, Department of Electronic and Computer Engineering, Florida International University, Miami, Florida, USA.
- Co-investigator, Project title: ***A Wearable Fetal Movement Monitor for Prenatal Care in LIC Community Medicine***, Applied for funding (GBP 10,00,000) to Newton Fund, UK in collaboration with principal investigator **Dr. Ravi Vaidyanathan**, Senior Lecturer in Biomechanics, Imperial College London (ICL), UK.

Professional Activities

1. Chair, First IBRO APRC NeuroScience Workshop & Brain Symposium in Bangladesh (IBRO APRC 2017), Dhaka, Bangladesh from 23-27 September 2017
2. Track Co-Chair, Session Chair and Reviewer, Biomedical Engineering, and Member, Technical Committee, IEEE Region 10 Humanitarian Technology Conference (R10-HTC 2017), December 21-23, 2017, Dhaka, Bangladesh.
3. Track Co-Chair, Session Chair and Reviewer, Biomedical Engineering, and Member, Technical Committee, 4th International Conference on Advances in Electrical Engineering (ICAEE 2017), September 28-30, 2017, Dhaka, Bangladesh.
4. Founder Member and Chair, *IEEE Engineering in Medicine and Biology Society (EMBS)* Bangladesh section.
5. General Chair, International Conference on Medical Engineering, Health Informatics and Technology (MediTec 2016), Dhaka, Bangladesh from 17-18 December 2016
6. Track Co-Chair, Session Chair and Reviewer, Biomedical Engineering, and Member, Technical Committee, IEEE WIECon ECE 2015, Dhaka, Bangladesh.
7. Session Chair, Software Engineering, and Member, Technical Committee, ICCIT 2015, Dhaka, Bangladesh.
8. Session Chair, Biomedical Engineering, and Member, Organizing Committee, SKIMA 2014, Dhaka, Bangladesh.
9. Reviewer, *IEEE Robotics and Automation Magazine*
10. Reviewer, *Journal of Neural Engineering, IOP Publications*
11. Reviewer, *Future Generation Computing Systems, Elsevier*
12. Reviewer, *Journal NeuroEngineering and Rehabilitations, BMC*
13. Reviewer, *Journal of Computers in Human Behavior, Elsevier*
14. Reviewer, *2nd International Conference on Electrical Engineering and Information & Communication Technology (iCEEiCT 2015)*, Jahangirnagar University, Dhaka, May 23, 2015.
15. Reviewer, *Research Ethics Board*, Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital, University of Toronto, Toronto Canada
16. Reviewer, *Graduate Scholarship Program*, Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital, University of Toronto, Toronto Canada
17. Member, Program Committee, *IEEE Asia-Pacific World Congress on Computer Science and Engineering 2014 (IEEE APWC on CSE 2014)*, Fiji, November 4-5, 2014.
18. Reviewer, *IEEE International Conference on Electrical and Computer Engineering (ICECE 2014)*, Dhaka, Bangladesh, December 20-22, 2014.
19. Reviewer, *The IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechanics (BioRob 2014)*, Brazil, August 12-15, 2014.
20. Reviewer, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2014)*, Chicago, USA, September 14-18, 2014.
21. Reviewer, *The 9th Annual International Joint Conferences on Computer, Information, Systems Sciences, & Engineering (CISSE 2013)*, University of Bridgeport, USA, December 12-14, 2013.
22. Reviewer, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2013)*, Tokyo, Japan, November 3-7, 2013.

23. Reviewer and Judge, *The 7th Annual Anne & David Ward Summer Student Research Day*, Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital, University of Toronto, Toronto Canada, July 23, 2013.
24. Reviewer, *The 8th International Workshop on Systems, Signal Processing and their Applications (WOSSPA2013)*, Algiers, Algeria, 12-15 May 2013.
25. Reviewer, *The Second International Conference on e-Technologies and Networks for Development (ICeND 2013)*, Kuala Lumpur, Malaysia, March 4-6, 2013
26. Reviewer, *The IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechanics (BioRob 2012)*, Italy, June 24-27, 2012.
27. Reviewer, *Public Journal of {Engineering, Electrical Engineering, Medicine, Biology}*, (www.PublicJournals.org).
28. Editorial board member, *Lecture Notes in Information Science and Technology* (<http://orslib.org/lnist/editorialboard.html>).
29. Member, International Program Committee, *The 2nd International Conference on Informatics, Electronics & Vision (ICIEV 2013)*, May 17-18, 2013, Dhaka, Bangladesh.
30. Member, Steering Committee, *Southampton Neurosciences Group (SoNG)*, University of Southampton, UK, 2011-2012.

Conference / Workshop Attended

1. International Conference on Networking Systems and Security (4th NSysS) on December 18-20, 2017.
2. IBRO APCR Neuroscience Workshop & Brain Symposium, Bangladesh, September 23-27, 2017.
3. ICCIT 2016, Dhaka, Bangladesh, December 18- 20, 2016.
4. MediTec 2016, Dhaka, Bangladesh, December 17- 18, 2016.
5. IBRO APCR Associate School of NeuroScience, Thailand, July 4-8, 2016.
6. ICCIT 2015, Dhaka, Bangladesh, December 21- 23, 2015.
7. IEEE WIECon ECE 2015, Dhaka, Bangladesh, December 18- 19, 2015.
8. Dhaka Conference on Disability and Disaster Risk Management, Dhaka, Bangladesh, December 12- 13, 2015.
9. iCEEiCT 2015, Jahangirnagar University, Dhaka, May 21-23, 2015.
10. PMCN 2015, Dhaka, Bangladesh, February 19-20, 2015.
11. SKIMA 2014, Dhaka, Bangladesh, December 19-21, 2014.
12. Annual BRI Symposium 2013, Holland Bloorview Kids Rehabilitation Hospital, Toronto, Canada, Nov 12, 2013.
13. Engineering Global Health Symposium, University of Toronto, Canada, May 3, 2013.
14. Annual BRI Symposium 2012, Holland Bloorview Kids Rehabilitation Hospital, Toronto, Canada, Nov 13, 2012.
15. SoNG Meeting 2011, University of Southampton, Southampton, UK, Sep 22, 2011.
16. SET for BRITAIN 2011, House of Commons, London, UK, March 14, 2011.
17. INSPIRE 2010, University College London (UCL), London, UK, Sep 6-8, 2010.
18. SoNG Meeting 2010, University of Southampton, Southampton, UK, Sep 23, 2010.
19. MLSP 2010, Kittila, Finland, Aug 29- Sep 1, 2010.
20. CINN Summer School in Cognitive Neurodynamics 2010, CINN, University of Reading, UK, July 9-16, 2010
21. Brain Products Workshop on EEG & TMS and EEG & fMRI, CINN, University of Reading, UK, July 7-8, 2010
22. Signal Processing for Cochlear Implants, Short course, ISVR, University of Southampton, UK, April 13-15, 2010
23. Mathematical Neuroscience 2010, Edinburgh, UK, Apr 19-21, 2010.
24. The MathWorks Customized Course on MATLAB, University of Southampton, UK, Dec 14-15, 2009.
25. INSPIRE 2009, Imperial College London, London, UK, Sep 21-23 2009.
26. BSA short papers meeting, University of Southampton, Southampton, UK, Sep 17-18, 2009.
27. PGBioMed 2009, Oxford University, Oxford, UK, Jul 12-14, 2009.
28. INTERSPEECH 2008, Brisbane, Australia, Sep 22-26, 2008.
29. ISIVC 2008, Bilbao, Spain, Jul 9-11, 2008.
30. ICECE 2006, Dhaka, Bangladesh, Dec 19-21, 2006.
31. ICCIT 2006, Dhaka, Bangladesh, Dec 21-23, 2006.
32. M2USIC 2006, Petaling Jaya, Malaysia, Nov 16-17, 2006.

33. ICEECE 2003, Dhaka, Bangladesh, Dec 22-24, 2003.

34. ICCIT 2002, Dhaka, Bangladesh, Dec 27-28, 2002.

Courses Taught

- *Undergraduate level*: Programming Language (C, C++, Java), Data Structures and Algorithms, Computer Networks, Computer Architecture, Numerical Methods, Discrete Mathematics, Digital Logic Design, Digital System Design, Information System Design, Software Engineering, Software Development Lab, Database Management (Lab using Oracle), Control System, Signal Processing, Pattern classification, Computing using Python, Modelling and Computing, Building a Tech Startup.
- *Graduate level*: Signal Processing, Pattern Classification, Assistive Technologies, Matlab, Research Methods, Human Computer Interactions, Advanced Intelligent Systems.
- *PhD level*: Research methods and presentation skills.
- *Professional*: Cisco Certified Network Associate (CCNA), Wireless LAN.

Student Thesis/Project Supervision/Co-Supervision

Graduate students

Florida International University, USA

2013 – Mohammad Saiful Islam, *PhD Candidate*, Department of Electrical and Computer Engineering, Proposed Thesis Title: Development of an intelligent brain machine interface system for close loop deep brain stimulations, co-supervising with Dr. Hai Deng.

University of Toronto, Canada

2012 – 2013 Bassma Ghali, *PhD*, Institute of Biomaterials and Biomedical Engineering, Thesis Title: Variability of handwriting biomechanics: a focus on grip kinetics during signature writing, (Co-supervised the research work).

2012 – 2013 Jie Lu, *Master of Applied Science*, Institute of Biomaterials and Biomedical Engineering, Thesis Title: Development and evaluation of an online Transcranial Doppler Ultrasonographic brain-computer interface for communication

2012 – 2013 Eric Wan, *Master of Applied Science*, Department of Electrical and Computer Engineering, Thesis Title: Automatic Detection of Selective Auditory Attention via Transient Evoked Otoacoustic Emissions

2012 – 2013 Winston De Armas, *Masters of Health Science*, Institute of Biomaterials and Biomedical Engineering, Thesis Title: Vocal Frequency Estimation and Voicing State Prediction with Surface EMG Pattern Recognition

United International University, Bangladesh

2014 – Mr. Md. Ariful Islam, Thesis Title: Design and Development of Smart application for Diabetes Awareness, Prevention and Management

Mr. Bipul Kumar Dey, Thesis Title: Access to ATM services for Person with Disabilities

Ms. Rebeca Sultana, Thesis Title: A Study on Automated Credit Scoring System

Mr. G. M. Monjur Morshed Mridha, Thesis Title: A mobile (Smart-phone or Tablet) based interactive, community-based automated tool for screening autism

Ms. Tanzina Hossain, Thesis Title: An Investigation of Mobile Health Applications for Developing Countries

Ms. Thanjida Akhter, Thesis Title: A Study on ICT to empower people with Disabilities in developing countries

Ms. Samira Muntaha, Thesis Title: An Evaluation of Impacts of Online or Distance Learning in developing countries

Mr. Md. Zea-ul Islam Khan, Thesis Title: Development of Brain Machine Interface for Mobile Applications

Undergraduate Students

Ahsanullah University of Science and Technology, Bangladesh

2015 - 2016 Group of 4 students, Final year thesis, Bachelor of Computer Science and Engineering, Topic: Transcranial Doppler based Neuro-imaging and Mental States Decoding

- 2015 - 2016 Group of 4 students, Final year thesis, Bachelor of Computer Science and Engineering, Topic: Development of low cost pulse oximeter for health monitoring
- 2013- 2014 Group of 4 students, Final year thesis, Bachelor of Computer Science and Engineering, Topic: An extensive review of world university ranking system and Bangladesh perspective
- 2013- 2014 Group of 4 students, Final year thesis, Bachelor of Computer Science and Engineering, Topic: A proposal for ranking higher education institutions: A case study for Bangladesh
- 2006- 2007 Group of 4 students, Final year thesis, Bachelor of Computer Science and Engineering, Topic: A study to simulate AI character for interactive computer games

Military Institute of Science and Technology, Bangladesh

- 2017 - 2018 Group of 4 students, Final year thesis, Bachelor of Computer Science and Engineering, Topic: Strategy for Digital Healthcare System to Improve Healthcare Service Delivery for Sustainable Digital Bangladesh
- 2017 - 2018 Group of 4 students, Final year thesis, Bachelor of Computer Science and Engineering, Topic: Development of an Intelligent Platform to Digitize Marriage, Empower Married Couple for Life and Family Wellbeing Towards Digital Bangladesh
- 2016 - 2017 Group of 4 students, Final year thesis, Bachelor of Computer Science and Engineering, Topic: mHealth Application to Empower Community Health Service for Married Couple: Challenges and Opportunities
- 2014 - 2015 Group of 4 students, Final year thesis, Bachelor of Computer Science and Engineering, Topic: A review on Diabetes Patient Lifestyle Management Using Mobile Application

United International University, Bangladesh

- 2017 - 2018 Group of 4 students, Final year thesis, Bachelor of Computer Science and Engineering, Topic: Development of a Virtual Eye Examining Application
- 2017 - 2018 Group of 4 students, Final year thesis, Bachelor of Computer Science and Engineering, Topic: Development of a Game based Brain-Machine Interface System
- 2016 - 2017 Group of 4 students, Final year thesis, Bachelor of Electrical and Electronic Engineering, Topic: Development of a Brain-Machine Interface System
- 2015 - 2016 Group of 4 students, Final year thesis, Bachelor of Electrical and Electronic Engineering, Topic: Low cost blood sugar monitoring
- 2015 - 2016 Group of 4 students, Final year thesis, Bachelor of Electrical and Electronic Engineering, Topic: Low cost health monitoring system
- 2015 - 2016 Group of 4 students, Final year thesis, Bachelor of Electrical and Electronic Engineering, Topic: Smart home for independent living
- 2015 - 2016 Group of 4 students, Final year thesis, Bachelor of Electrical and Electronic Engineering, Topic: Communication aid for non-verbal kids
- 2014- 2015 Group of 4 students, Final year thesis, Bachelor of Electrical and Electronic Engineering, Topic: Tongue Movement Ear Pressure signals for developing assistive HMI

Undergraduate internship/summer students

University of Toronto, Canada

- 2014 Melodie Therme, Polytech Grenoble, France
Project: Physiological measures of coaching responses: Solution-Focused coaching and Problem-Based coaching.
- 2014 Laura M. C. Moreno, Escuela de Ingeniería de Antioquia (EIA) - Universidad CES, Colombia
Project: Tongue Movement Accelerometer for access communications
- 2013 Stephanie Chan, McMaster University, Canada
Project: Tongue Movement Accelerometer: An alternative access pathway
- 2013 Elizabeth Nguyen, Ryerson University, Canada
Project: Dynamic topographic visualization and quantification of a multichannel surface EMG grid array
- 2013 Tracy Wong, The Chinese University of Hong Kong, Hong Kong

Project: Characterizing physiological pattern of peripheral nervous system for activity engagement in youth with severe disabilities

2012 Adeel Alam, University of Toronto, Canada

Project: Tongue Switch: An assistive access pathway

Thesis/Project Examination

Graduate students

Bangladesh University Engineering and Technology (BUET), Bangladesh

2017 Farhad Hossain, *MSc in ICT*, Institute of Information and Communication Technology,
Thesis Title: A Direction-Sensitive Fall Detection System Using Single 3D Accelerometer and Learning Classifier

2017 Md. Nazimul Haque, *MSc in CSE*, Department of Computer Science and Engineering,
Thesis Title: Polynomial Time Approximation Scheme for Efficient Execution of Stream Graphs on Multicores

2018 Paramita Basak Upama, *MSc in ICT*, Institute of Information and Communication Technology,
Thesis Title: Prediction of Protein Subcellular Localization using Machine Learning

United International University, Bangladesh

2017 Rianon Zaman, *MSc in CSE*, Department of Computer Science and Engineering,
Thesis Title: Optimization Models for Smart Grids DNA-Binding Protein Prediction Using HMM Profile Based Features

2017 Md. Fasihul Kabir, *MSc in CSE*, Department of Computer Science and Engineering,
Thesis Title: Bangla Text Document Categorization

2017 Sujata Baral, *MSc in CSE*, Department of Computer Science and Engineering,
Thesis Title: Sequencing of Cyclic Peptides Using Hybrid ACO

2016 Jannatul Ferdous, *MSc in CSE*, Department of Computer Science and Engineering,
Thesis Title: Optimization Models for Smart Grids

2015 Shanjida Khatun, *MSc in CSE*, Department of Computer Science and Engineering,
Thesis Title: A Novel Genetic Operator for Discovering Diverse-Frequent Patterns

2015 Bushra Ferdousi, *MSc in CSE*, Department of Computer Science and Engineering,
Thesis Title: Cough Detection using Speech Analysis

2015 Muhammad Shakil Pervez, *MSc in CSE*, Department of Computer Science and Engineering,
Thesis Title: Feature Selection and Intrusion Classification in NSL-KDD Cup Dataset Employing SVMs

2015 Tanzila Akter Bably, *MSc in CSE*, Department of Computer Science and Engineering,
Thesis Title: Effect of HMM States on Bangla Automatic Speech Recognition

2015 Shaib Ahmed, *MSc in CSE*, Department of Computer Science and Engineering,
Thesis Title: Ensemble Approach for Improving Generalization Ability of Neural Networks

Courses Completed during Academic Degrees

PhD in Biomedical Engineering

Signal Processing, Pattern Classification, Machine learning, Adaptive Methods, Research Methods, Project Development, Biomedical Applications of Signal Processing, Neuroscience, Systems Neuroscience.

M. Sc. in Computer Science and Engineering Courses

Multimedia Systems, Computational Geometry, Graph Theory, Distributed Computing System, Advanced Database System, Fuzzy System.

B. Sc. in Computer Science and Engineering Courses

Algorithms, Data Structures, Artificial Intelligence, Programming Language-I(C-Programming), Programming Language-II(C++ Programming), Software Development Lab (C, JAVA), Computer Networks, Network programming, Compiler construction, Computer Architecture, Operating Systems, Numerical Methods, Discrete Mathematics, Digital System Design, Digital Logic Design, VLSI Design, Data Communications, Microprocessor, Computer Interfacing, Digital electronics and pulse techniques, Databases, Information System Design, Software Engineering, Computer Graphics(Lab using OpenGL), Advanced Database

Management(Lab using Oracle), Mathematical Analysis for Computer Science, Introduction to Theoretical Computer Science, Basic Electrical Engineering, Electronic Devices & Circuits, Electrical Drives & Instrumentation, Mathematics-I, II, III, IV (Differential Calculus, Co-ordinate Geometry, Integral Calculus, Ordinary Differential Equations, Complex Variable, Laplace Transforms, Statistics, Matrices, Vector and Fourier Analysis), Physics, Chemistry, English, Economics, Accounting, Sociology, Industrial Management.

Co-curricular Activities

1. Member, The Spectrum of Science Roadshow, Outreach program of ISVR, University of Southampton, UK, 2010
2. PhD Student Representative, Human Science Group, ISVR, University of Southampton, 2010-2011.
3. PhD Student Representative, HABC, Human Science Group, ISVR, University of Southampton, 2008-2010
4. President, Bangladeshi Student Society, University of Southampton, 2008-2009
5. Executive Committee Member, Institute of Engineer's Bangladesh (IEB), Riyadh, Saudi Arabia, 2007-2008.
6. Committee Member, Cisco Networking Academy Program (CNAP), United International University (UIU), 2007.
7. Committee Member, Cisco Networking Academy Program (CNAP), Ahsanullah University of Science and Technology (AUST), 2004-2007.
8. Student Advisor, Department of Computer Science & Engineering, Ahsanullah University of Science and Technology (AUST), 2003-2007.
9. Coach, Ahsanullah University of Science and Technology (AUST) programming Contest Team, 2003-2007, Team participated at ACM-ICPC 2004 (Dhaka), ACM-ICPC 2005 (Dhaka), NCPC 2005 (Dhaka), EWUIPC 2006 (Dhaka), ACM-ICPC 2006 (Dhaka), DIU-IUPC 2007 (Dhaka).
10. Organizing Member, Intra AUST Programming Contest (IAPC), Ahsanullah University of Science and Technology (AUST), 2003-2007.
11. Team Leader, Ahsanullah University of Science and Technology (AUST) Flood Relief Distribution Team, 2004.
12. Member, AUST Computer Club, Ahsanullah University of Science and Technology (AUST), 1998-2002.
13. Team Manager, 1st and 2nd AUST intra-CSE cricket tournament, Ahsanullah University of Science and Technology (AUST), 1999, 2000.
14. Member, Science and Technology, Nongalkot Student Welfare Association, Dhaka, Bangladesh, 2000-2001.

Research Collaborations

1. **Dr. Tom Chau**, Professor, Institute of Biomaterials & Biomedical Engineering, University of Toronto and Vice President, Research & Director, Bloorview Research Institute, Canada Research Chair in Pediatric Rehabilitation Engineering, Holland Bloorview Kids Rehabilitation Hospital, Toronto, Canada
2. **Dr. Hai Deng**, Assistant Professor, Director of Sensor Research Lab, Department of Electronic and Computer Engineering, Florida International University, Miami, Florida, USA
3. **Dr. Shouyan Wang**, Professor of Biomedical Engineering, Director of Biomedical Electronics Department, Suzhou Institute of Biomedical Engineering and Technology (SIBET), Chinese Academy of Sciences, Suzhou, China
4. **Dr. Ravi Vaidyanathan**, Senior Lecturer in Biomechanics, Department of Mechanical Engineering, Imperial College London, London, UK
5. **Dr. Ghulam Muhammad**, Associate Professor, Department Computer Engineering, College of Computer and Information Sciences, King Saud University, Riyadh, Saudi Arabia

Personal Data

- Date of birth: October 5, 1980.
- Nationality: Bangladeshi (by birth).
- Marital Status: Married.
- Permanent Address:
Village: Patower, Police Station: Nangalkot,
District: Comilla, Bangladesh

References

1. **Dr. Tom Chau**
Vice President, Research & Director, Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital
Professor, Institute of Biomaterials & Biomedical Engineering, University of Toronto
150 Kilgour Road, Toronto, Ontario, M4G 1R8, Canada

Phone: +1 416 425 6220 ext. 3515
Email: tom.chau@utoronto.ca, tchau@hollandbloorview.ca

2. **Dr. Shouyan Wang**
Professor of Biomedical Engineering and Director, Medical Electronics Department
Suzhou Institute of Biomedical Engineering and Technology (SIBET), Chinese Academy of Sciences
88 Keling Road, Ke Ji Cheng, Gao Xin Qu, Suzhou, China 215163
Phone: +86 512 6958 8242
Email: swang@sibet.ac.cn
3. **Dr. Ravi Vaidyanathan**
Senior Lecturer in Biomechanics, Department of Mechanical Engineering
Imperial College London
South Kensington Campus, London, SW7 2AZ, UK
Phone: +44 (0) 20 7594 7020
E-mail: r.vaidyanathan@imperial.ac.uk
4. **Prof. Dr. M. H. Khan**
Ex. VC, BUET and AUST
Dhaka, Bangladesh
Telephone: +88029122007