DR. SAZZAD HOSSAIN

PROFESSOR

CONTACT

+998 90 446 99 77

sazzad69@gmail.com

140104, University blv. 15, Samarkand city, Samarkand region, Uzbekistan

www.sazzad.org

WEB OF SCIENCE ORCID Google Scholar LinkedIn ResearchGate

EDUCATION

PORTLAND STATE UNIVERSITY, OREGON, USA

- **Ph.D. in Electrical and Computer Engineering**
  - *Dissertation: Classical and Quantum Search Algorithms for Quantum Circuits and Optimization of Quantum Oracles*
  - *Advisor: Professor Dr. Marek A. Perkowski*

PORTLAND STATE UNIVERSITY, OREGON, USA

- **M.Sc. in Electrical and Computer Engineering**
  - *Advisor: Professor Dr. Marek A. Perkowski*

MOSCOW TECHNICAL UNIVERSITY, RUSSIA

- **B.Sc. in Electrical System Network Engineering**

AWARDS & RECOGNITIONS

- **Board Award** for securing Star Marks in SSC (1984) and HSC (1986)
- **Talent Pool Merit Scholarship** at all levels in school and college
- International Islamic University Chittagong, **PhD Fellowship** (2005 – 2008)
- Moscow Technical University **Undergraduate Scholarship** (1991 – 1994)
- **Teaching & Research Assistantship** – Portland State University (2000 – 2001, 2005 – 2009)
- **National Digital Transformation Award** for AI and Quantum Computing Contributions

PROFILE

Professor Dr. Md. Sazzad Hossain is a distinguished professor, researcher, academic advisor, and ICT expert with extensive experience in higher education, research, and technology consulting. He is currently a Professor at Samarkand State University, Uzbekistan, and Head of the Department of International Education Development at Synergy University, Moscow, Russia.

Dr. Hossain was a Member of the **University Grants Commission (UGC) of Bangladesh (2019–2024)** and a former Director of Bangladesh Satellite Company Ltd. (BSCL). He has also been a Professor and head of the CSE Department at ULAB since 2009. He holds a Ph.D. in Electrical and Computer Engineering from Portland State University, USA, specializing in Quantum Computing. His interdisciplinary research spans physics, mathematics, computer science, and biology. His research interests include Quantum Computing, AI, IoT, Cybersecurity, Human-Robot Interaction, and Renewable Energy. With over thirty years of experience in the ICT sector, Dr. Hossain has consulted for government agencies, global tech firms, and research institutions. He has taught **Quantum Computing, Game Theory, AI, IoT, and Human-Robot Interaction** courses as a dedicated educator.

A prolific author, he has published over 50 peer-reviewed international journal and conference papers. He is also the author of **"অদৃশ্য প্রযুক্তি" (Invisible Technology)** and **"Programming in C,"** widely recognized in science and technology literature.

PROFESSIONAL EXPERIENCES

Professor — **2024 - PRESENT**

Faculty of Artificial Intelligence and Computer Technologies

Samarkand State University, Uzbekistan

- Leading AI & Quantum Computing research initiatives
- Establishing AI-driven Cybersecurity & Big Data Analytics research centers

Head — **2024 - PRESENT**

Department of International Education Development

Synergy University, Moscow, Russia

- Fostering cross-border research collaborations in AI, Cybersecurity, and Quantum Computing

Former Member — **2019 - 2024**

University Grants Commission (UGC) of Bangladesh

- Spearheaded national policies for AI-integrated satellite communication systems.
- Contributed to the formulation of strategic plans for Bangabandhu Satellite-1 & future satellite programs.

Former Director — **2019 - 2024**

Bangladesh Satellite Company Ltd. (BSCL), Bangladesh

- Overseeing AI-driven satellite communication projects
- Shaping national space technology policies for Bangladesh

DISTINGUISHED LEADERSHIP IN HIGHER EDUCATION, RESEARCH, AND TECHNOLOGY POLICY

- **Professor Dr. Md. Sazzad Hossain's** tenure as a **Member** of the **University Grants Commission (UGC) of Bangladesh (2019 - 2024)** marked a defining milestone in his career. He demonstrated leadership in academic policy, research innovation, and technology-driven education reforms.
- At UGC, he spearheaded the integration of **AI, Quantum Computing, Cybersecurity, and IoT** into the national higher education curriculum, ensuring future-ready policies for **STEAM** education and digital transformation. His leadership in research funding, international collaborations, and technology-driven governance positioned Bangladesh at the forefront of global higher education innovation.

CONSULTING POSITIONS

ICT Business and System Analysis
Spectrum Engineering Consortium Limited
Corporate Office, 69/1, Panthapath, Chandrashila Suvastu Tower, 7th FLoor, Suite C, Dhaka-1205

Software Development Center
ICT Incubator, BSRS Bhaban, 7th & 8th Floor, 12 Kazi Nazrul Islam Avenue, Karwan Bazar, Dhaka-1215

IT Skills Trainer
Volunteer for Underprivileged School Kids, Dhaka
January 2011 – Present

Lego Robotics Trainer
Volunteer for High School Kids, Bangladesh
June 2011 – Present

Teaching Assistant
Portland State University, OR, USA
2005 – 2008

Lab Instructor
Preparatory Academics for Oregon Engineers, USA
2005 – 2007

Team Leader
Advanced Engineering & Research Center,
International Islamic University Chittagong, Bangladesh

Supervisor
Networks & Computer Labs,
International Islamic University Chittagong, Bangladesh
November 2001 – December 2004

Teaching Assistant
Portland State University, OR, USA
Fall 2001 – Winter 2001

VISITING/ADJUNCT POSITIONS

- **Adjunct Associate Professor**

School of Communication & Engineering, Independent University of Bangladesh.
July 2009 – December 2009

- **Adjunct Assistant Professor**

School of Communication & Engineering, Independent University of Bangladesh.
November 2001 – August 2002

RESEARCH INTERSETS

- **Quantum Computing:** Quantum Algorithms, Fault-Tolerant Computing, Quantum Cryptography
- **Artificial Intelligence & Machine Learning:** Deep Learning, NLP, AI Ethics, Predictive Analytics
- **Cybersecurity & IoT:** AI-driven Security, Blockchain Security, Smart Cities
- **Human-Robot Interaction:** AI-Enabled Robotics, Cognitive Computing, Assistive Technologies
- **Big Data Analytics:** AI-driven Decision Systems, Industry 4.0 Solutions

RESEARCH GRANTS & PROJECTS

- **Principal Investigator:** A Holistic Mitigation Approach to Arsenic Contamination (2013 – 2014)
- **Co-Investigator:** Poor Utilization of Road Networks & Traffic Congestion Study (2013 – 2014)
- **Faculty Research Opportunities Program (2009)** – AI and Human Motion Tracking Research
- CAD Tools for Quantum Computing (Funded by Portland State University/IIUC)
- Model for Human-Robot Interaction (2005 – 2009, Funded by Portland State University)

EDITORIAL & ADVISORY ROLES

- **Editor:** Proceedings of The Fourth Industrial Revolution and Beyond, Springer Nature (SCOPUS Indexed)
- **Editor:** ULAB Journal of Science and Engineering, Bangladesh (ISSN 2079-4398)
- **Advisory Committee Member:** 1st International Conference on Advanced Information and Communication Technology (ICAICT 2016)

REVIEWER ROLES

- Institution of Engineering and Technology Journals
- International Journal of Electronics
- International Journal of Computers & Mathematics with Applications (ISSN: 0898-1221)
- International Journal of Mathematical and Computer Modeling (ISSN: 0895-7177)

PROFESSIONAL MEMBERSHIPS & LEADERSHIP ROLES

- AABL Leadership Award for Promoting Higher Education in Bangladesh
- Fellow, Institution of Engineers Bangladesh (IEB)
- Senior Member, IEEE (USA), ACM, and IEICE (Japan)
- Board Member, Bangladesh AI Research Society (BAIRS)
- Founder & Chairman, Alternative and Sustainable Energy Foundation Bangladesh

TECHNICAL SKILLS & EXPERTISE

- Programming Languages: C, C++, Java, Python, LISP, VHDL, Verilog, SQL, PL/SQL, FORTRAN 77
- Database Systems: FoxPro, Oracle 8, MySQL
- AI & ML Frameworks: TensorFlow, PyTorch, Scikit-Learn
- Engineering & CAD Applications: MATLAB, CADENCE, PSPICE, Mentor Graphics, ArcGIS

ADMINISTRATIVE RESPONSIBILITIES

- Head, Department of Computer Science and Engineering, University of Liberal Arts Bangladesh (December 2009 – May 2017)
- Adviser, IT Division, University of Liberal Arts Bangladesh (February 2010 – Present)
- Head, Department of Computer Science and Engineering, International Islamic University Chittagong, Bangladesh (March 2003 – May 2003).
- Convener, International Islamic University Chittagong, Library Automation Committee.
- Convener, Job Fair 2003, Chittagong, Bangladesh

EXTERNAL SERVICES

Conference

Organizing Chair - International Conference of Fourth Industrial Revolution 2021, Dhaka, Bangladesh.

Workshop

Student Program Chair - International Workshop on Robot and Human Interactive Communication (2005) Organizing Committee, Portland State University, Oregon, USA.

Leadership

- **Chairman and Founder**, Alternative and Sustainable Energy Foundation Bangladesh, 2011– present
- **Secretary General,** Central Governing Body, Old Faujian Association (Ex-Cadets of Faujdarhat Cadet), 2011 – 2012
- **Science and Technology Secretary**, CUET Ex-Student Association, 2011 – 2012.

INVITED SPEAKER

- Delivered a **"Quantum Computer"** talk on October 27, 2009, at the Institute of Engineers, Chittagong, Bangladesh.
- Delivered a talk on **"Why Quantum Computer"** in June 2007 at Portland State University, Oregon, USA.

STUDENT SUPERVISION

More than fifty undergrad students completed their thesis/project for their partial fulfillment of the B.Sc. degree in Computer Science & Engineering.

- Design of Proxy Server on Java
- Modeling Wireless Network with Asynchronous VLSI
- VLSI Design and Logic Synthesis with Technology Mapping
- Design of a 4-bit adder
- Online Office Management System
- Design and implement Web-based System

TEACHING & ACADEMIC CONTRIBUTIONS

- Quantum Computing
- Artificial Intelligence & Machine Learning
- Internet of Things (IoT)
- Game Theory & Decision Making
- C++ & Advanced Programming

LANGUAGES

- English
- Bengali
- Russian

MEMBERSHIPS

PROFESSIONAL

- **Life Fellow,** Institution of Engineers Bangladesh
- **Life Fellow,** American Alumni Association
- **Life Member,** Russian Alumni Association
- **Life Member,** CUET Ex-Student Association
- **Life Member,** Old Faujian Association (Ex-Cadet of Faujdarhat)
- **Life Member,** Ex-student of Chittagong Govt. College

SOCIAL

- **Central Council Member,** Institution of Engineers Bangladesh (IEB), 2015-2017
- **Executive Member,** Bangabandhu Prokausholee Porishod (BPP), 2013-2016
- **Chairman and Founder,** Alternative and Sustainable Energy Foundation Bangladesh
- **Elected Joint Secretary General,** Central Governing Body, Old Faujian Association, 2011-2012
- **Science and Technology Secretary,** CUET Ex-Student Association, 2011-2012
- **Member,** Energy Action Coalition, USA
- **Power Shift 09 Conference,** February 27th to March 2nd ,Washington D.C., USA
- **Member,** Cadet College Club, Dhaka, Bangladesh

PUBLICATIONS

BOOKS

- Md Sazzad Hossain et al., Proc. of The Fourth Industrial Revolution and Beyond, Lecture Notes in Electrical Engineering, Springer Nature, ISBN: 978-981-19-8031-2 (SCOPUS Indexed)
- Md Sazzad Hossain et al., Proceedings of International Conference on Fourth Industrial Revolution and Beyond 2021. Lecture Notes in Networks and Systems, vol 437. Springer, Singapore. https://doi.org/10.1007/978-981-19-2445-3
- S. Hossain, M.Q. Maula, M. M. Jahangir, "Programming in C – Basic, Advanced & Graphics Programming", Popular Books, Dhaka-1205, Bangladesh, August 2003, ISBN: 984-32-0694

EDITED BOOKS

- Hossain, S., Hossain, M.S., Kaisar, M.S., Majumder, S.P., & Ray, K. (Eds.). (2022). Proceedings of International Conference on Fourth Industrial Revolution and Beyond 2021. Lecture Notes in Networks and Systems (LNNS, volume 437), Springer.
- Hossain, M.S., Siddique, N., Majumdar, S.P., & Hossain, S. (Eds.) (2022). Proceedings of International Conference on Fourth Industrial Revolution and Beyond 2021.Lecture Notes in Networks and Systems (LNNS, volume 89175968), Springer.

WORKSHOPS PUBLICATIONS

- S. Hossain, M. Perkowski, F. Zhao, "Minimal Graph Coloring using the Quantum Algorithm of Grover and the importance of Quantum Composition/Layout Problem in the complete design of Quantum Oracles", 9th International Workshop on Boolean Problems, September16-17, 2010, Freiberg(Sachsen), Germany.
- S. Hossain, M. Perkowski, "The affine gates and affine polarities for quantum arrays with small costs", 17th International Workshop on Post-Binary ULSI Systems, May 24, 2008, Dallas, Texas, USA.

MAGAZINE/TECHNICAL REPORTS

- **S**. Hossain, "Future Computing", Advanced Computing, Portland State University, OR, USA, August 2007.
- S. Hossain, "Reversible Cellular Automata",Advanced Computing, Portland State University, OR, USA, July/August 2006.
- S. Hossain, "Humanoid Robots" Technical Report, Intelligent Robotics Laboratory, Portland State University, OR, USA, December 2006.
- S. Hossain, "NP-NP, NPN Classification for Logic synthesis in Quantum Computer", Final Report for Quantum Research Group, August 2005.

DOCTORAL DISSERTATION

Classical and Quantum Search Algorithms for Quantum Circuits and Optimization of Quantum Oracles

Contributions :

- Introduced the concept of affine quantum gates and circuits.
- Generalized the concept of polarity to affine polarity.
- Wrote software to synthesize quantum circuits with affine gates.
- Introduced the concept of a two-level search where the upper level performs
- Evolutionary search in the space of polarities and the lower level the tree search within one polarity.
- The methods of this type are very broad to design many classes of quantum circuits.
- Found several applications of this methodology to solve combinatorial CAD problems such as minimization of electromagnetic pulses in NMR, affine circuit synthesis and classical AND/EXOR circuit synthesis.
- Introduced new quantum oracles for several problems such as graph coloring, various forms of satisfiability, quantum circuit synthesis (ESOP), constraint satisfaction problems and puzzles
- Introduced a new concept of hierarchical parallel hybrid search that uses classical master computers and slave computers being pairs of standard computer with Grover accelerator with various parameter setups of Grover accelerators.

TERM PAPERS

- **Study Of PCI- X Bus System:** Competitive study of peripheral unit of different kind such as PCI-X, infiniBand, Rapid IO, LDT .etc are compared in terms of main stream computing, compatibility, marker catching, performance issue and found that PCI-X is the better solution.
- **Branch prediction technique in general and special processors:** This paper describes how a SBI (Selective Branch Inversion) scheme is used on top of the existing branch prediction techniques (Gshare, Bi-Mode, McFarling) to get a higher prediction accuracy. It also describes techniques for SPMT processors. They are extrapolation, correlation and hybrid of extrapolation and correlation.
- **ATPG Tool Study For The Industry:** ATPG increases the product quality with generated test vectors for high defect detection. Different tools such as FastScan and TetraMax tool used in the industry have been studied.
- **Energy Consumption in Reversible Logic Circuits:** This project involved the design of digital logic gates/circuits; study the energy consumption by these circuits and compare it's effectiveness with the traditional static CMOS gates/circuits. To achieve the goal of this project, a number of basic gates were designed using Cadence's digital design tools. These gates were used as basic building blocks to design 4-bit and 16 bit Carry-lookahead adder circuits in Reversible as well as static CMOS circuits topologies. The study of energy consumption demonstrated that there was 78 – 79% reduction in the energy consumption in reversible circuits compared to static CMOS circuits.
- **Standard Cell Based Digital Circuit Design Methodology:** As an integrated part of a sequence of two Digital IC Design courses, several static CMOS gates, and small circuits (e.g. Full adder, D-Latch, 5-bit adder/subtractor, Serial shift Parallel load registers) were designed using Cadence design tools. Apart from this, layout design of individual standard cells and P&R of circuits were also performed using Cadence back-end tools. Full datasheet was also prepared for each standard cell. The objective was to learn and follow the Standards cell based digital IC Design methodology.

JOURNALS

- N. Mansoor, S.M.N. Uddin, S. Hossain, "A Robust Architecture for CR-VANET in Multi-agent Based Intelligent Traffic Management System" Jurnal Teknologi, 2016 (Accepted for Publication). (SCOPUS Indexed)
- N. Giesecke, S. Hossain, D. H. Kim, M.Perkowski, "Search for Universal Ternary Quantum Gate Sets with Exact Minimum Costs", Embedded Software Design (Journal of System Architecture), The EUROMICRO Journal, 2009.
- S. Hossain, M. Islam, R. Bashar and Alamgir "Logical Reversibility Based on Reversible Computing Technology" Asian Journal of Information Technology, Volume 3 Number 4, 2004, pp. 241-244, ISSN: 1638-8831
- M.N. Seddiqui , S. Hossain, S. and M.R. Bashar, "Bangla Spell Checker Considering Relative Disposition of Characters and Phonetic Similarity" Asian Journal of Information Technology, Volume 3 Number 4, 2004, pp. 241 - 244, ISSN: 1638-8831

CONFERENCE PUBLICATIONS

- S. N. Zisad, M.S. Hossain. M.S. Hossain and K. Andersson (2021). An Integrated Neural Network and SEIR Model to Predict COVID-19. Algorithms. 2021; 14(3):94. https://doi.org/10.3390/a14030094 [Web of Science, Scopus and DBLP Indexed]
- Hossain, M.S., Alamgir, M. and Hossain, M.S., (2004) "An Object-oriented Approach to Support Faster Retrieve and Manipulation of Spatial Data", Asian Journal of Information Technology, Vol. 3, No.7, July 2004, pp. 492-497, ISSN: 1682-3915
- Mahmud, T., Barua, K., Chakma, K., Chakman, R., Sharmen, N., Kaiser, M. S., Hossain, M.S., Hossain, M.S., & Andersson, K. (2024). Exploring the Effectiveness of Region-Based CNNs in Skin Cancer Diagnosis. In: Mahmud, M., Kaiser, M.S., Bandyopadhyay, A., Ray, K., Al Mamun, S. (eds) Proceedings of Trends in Electronics and Health Informatics. TEHI 2023. Lecture Notes in Networks and Systems, vol 1034. Springer, Singapore. https://doi.org/10.1007/978-981-97-3937-0_26[Scopus Index]

- Mahmud, T., Aziz, M.T., Uddin, M.K., Barua, K., Rahman, T., Sharmen, N., Kaiser, M.S., Hossain, M.S. Hossain, M.S., & Andersson, K.. (2024)Ensemble Learning Approaches for Alzheimer's Disease Classification in Brain Imaging Data. In: Mahmud, M., Kaiser, M.S., Bandyopadhyay, A., Ray, K., Al Mamun, S. (eds) Proceedings of Trends in Electronics and Health Informatics. TEHI 2023. Lecture Notes in Networks and Systems, vol 1034. Springer, Singapore. S. N. Zisad, M.S. Hossain. M.S. Hossain and K. Andersson (2021). An Integrated Neural Network and SEIR Model to Predict COVID-19. Algorithms. 2021; 14(3):94. https://doi.org/10.3390/a14030094 [Web of Science, Scopus and DBLP Indexed]
- Hossain, M.S., Alamgir, M. and Hossain, M.S., (2004) "An Object-oriented Approach to Support Faster Retrieve and Manipulation of Spatial Data", Asian Journal of Information Technology, Vol. 3, No.7, July 2004, pp. 492-497, ISSN: 1682-3915
- Mahmud, T., Barua, K., Chakma, K., Chakman, R., Sharmen, N., Kaiser, M. S., Hossain, M.S., Hossain, M.S., & Andersson, K. (2024). Exploring the Effectiveness of Region-Based CNNs in Skin Cancer Diagnosis. In: Mahmud, M., Kaiser, M.S., Bandyopadhyay, A., Ray, K., Al Mamun, S. (eds) Proceedings of Trends in Electronics and Health Informatics. TEHI 2023. Lecture Notes in Networks and Systems, vol 1034. Springer, Singapore. https://doi.org/10.1007/978-981-97-3937-0_26[Scopus Index][Scopus Index]
- Barua, Koushick, Tanjim Mahmud, Anik Barua, Nahed Sharmen, Nanziba Basnin, Dilshad Islam, Mohammad Shahadat Hossain, Karl Andersson, and Sazzad Hossain. "Explainable AI-based humerus fracture detection and classification from x-ray images." In 2023 26th International Conference on Computer and Information Technology (ICCIT), pp. 1-6. IEEE, 2023. [Scopus Index].
- Nahar, N., Hossain, M.S., Jahan, S., Tasnim, M., Andersson, K. & Hossain, M.S (2021). Smart Home Surveillance Based on IoT. In: Hossain, S., Hossain, M.S., Kaiser, M.S., Majumder, S.P., Ray, K. (eds) Proceedings of International Conference on Fourth Industrial Revolution and Beyond 2021 . Lecture Notes in Networks and Systems, vol 437. Springer, Singapore. https://doi.org/10.1007/978-981-19-2445-3_39 [Scopus Index]
- Akter, N., Junjun, J.A., Nahar, N., Hossain, M.S., Andersson, K. & Hossain, M.S (2021). Brain Tumor Classification using Transfer Learning from MRI Images. In: Hossain, S., Hossain, M.S., Kaiser, M.S., Majumder, S.P., Ray, K. (eds) Proceedings of International Conference on Fourth Industrial Revolution and Beyond 2021 . Lecture Notes in Networks and Systems, vol 437.Springer, Singapore. https://doi.org/10.1007/978-981-19-2445-3_40 [Scopus Index]
- Sumi, T.A., Basnin, N., Hossain, M.S., Andersson, K. & Hossain, M.S (2021), Classifying Humerus fracture using X-ray images. In Internation Conference on Fourth Industrial Revolution and Beyond (IC4IR), Springer Cham. [Scopus Index]
- Karim, R., Hossain, M.S., Hossain, S., Andersson, K., Hossain, M.S., Zobaeir, A.S.M & Ahmed, M (2021), A Belief Rule Based Decision Support System to Assess Multiple Disease Suspicion from Signs and Symptoms under Uncertainty. In Internation Conference on Fourth Industrial Revolution and Beyond (IC4IR), Springer Cham. [Scopus Index]
- Hossain, M.S., Hossain, S., Ahmed, T. W., Islam, R.U. & Andersson, K (2021), A Deep Learning Approach with Data Augmentation to Recognize Facial Expressions in Real Time. In Third International Conference on Trends in Computational and Cognitive Engineering – TCCE, Springer Cham. [Scopus Index]
- Gupta, D., Hossain, E., Hossain, M. S., Hossain, M. S., & Andersson, K. (2020, December). An Interactive Computer System with Gesture-Based Mouse and Keyboard. In International Conference on Intelligent Computing & Optimization (pp. 894-906). Springer, Cham.
- T.W. Ahmed, M.N. Jamil, M.S. Hossain, K. Andersson and M.S. Hossain. (2020), An Integrated Real-Time Deep Learning and Belief Rule Base Intelligent System to Assess Facial Expression Under Uncertainty, In: Proceedings of 9th International Conference on Informatics, Electronics & Vision (ICIEV), 2020, IEEE August,2020, Japan.
- D. Gupta, E. H. Fahad, M.S. Hossain, K. Andersson & S. Hossain.(2019). A Digital Personal Assistant using Bangla Voice Command Recognition and Face Detection, In: Proceedings of IEEE International Conference on Robotics, Automation, Artificial-Intelligence and Internet-of-Things 2019, November 29 – December 1, 2019, Dhaka, Bangladesh.
- R. R. Chowdhury, M.S. Hossain, S.Hossain & K. Andersson. (2019). Analyzing Sentiment of Movie Reviews in Bangla by Applying Machine Learning Techniques, In: Proceedings of 2nd International Conference on Bangla Speech and Language Processing (ICBSLP),IEEE, 27-28 September, 2019, Shahjalal University of Science and Technology, Sylhet, Bangladesh
- M.R. Chowdhury, M.S. Hossain, R.U. Islam, K. Andersson & S. Hossain. (2019). Bangla Handwritten Character Recognition Using Convolutional Neural network with Data Augmentation, In: Proceedings of Joint 8th International Conference on Information, Electronics and Vision (ICIEV), IEEE, May 30-June 2, 2019, Eastern Washington University, USA
- T.U. Ahmed, S. Hossain, M.S. Hossain, R.U. Islam & K. Andersson. (2019). Facial Expression Recognition Using Covulutional Neural Network with Data Augmentation, In: Proceedings of Joint 8th International Conference on Information, Electronics and Vision (ICIEV), IEEE, May 30- June 2, 2019, Eastern Washington University, USA
- M.S. Hossain, M.E Hossain, M.S. Khalid & M.A. Haque. (2014). A Belief Rule Based BRB) DSS to Assess Clinical Asthma Severity. In Linköping Electronic Conference Proceedings, 83–89. 102. Grimstad; Norway: Linköping University Electronic Pres [This conference is BFI-worthy (i.e. credited in the Danish system at Level 1)].
- Hossain, M.S., Islam, R.U., Hossain, M.S., (2004), "An Information System to Support Person Identification Using Ear Biometrics", Proceedings, 7th International Conference on Computer and Information Technology (ICCIT), December 2004, Dhaka, Bangladesh, ISBN: 984-32-1836-1
- Hossain, M.S., Alamgir, M. And Hossain, M.S., (2004) "An Object-oriented Approach to Support Faster Retrieve and Manipulation of Spatial Data" Proceedings 19th International Conference on Computers and Their Applications, March 18-20, 2004, Seattle, Washington, USA, ISBN: 1-880843-50-1(This paper is indexed in ISI (Thomson Reuters/Web of Science)]
- N. Mansoor, N.J. Farin, S. Hossain, "FITSYS: A Conceptual Framework For Intelligent Transportation System Driven Smart City In Bangladesh", 57th Annual Convention, The Institute of Engineers Bangladesh (IEB), February 2017. Bangladesh
- S.M.N. Uddin, N. Mansoor, M. Rahman, N. Mohammed, and S. Hossain, "A Framework for Event Anomaly Detection in Cognitive Radio Based Smart Community", International Workshop on Computational Intelligence, 2016 (IWCI 2016), December, 2016, Bangladesh. (Scopus Indexed)
- S.M.N. Uddin, N. Mansoor, S. Hossain, "Cognitive Radio Enabled VANET for Multi-agent Based Intelligent Traffic Management System", 1 ST International Conference on Advanced Information and Communication Technology 2016 (ICAICT 2016), May 16-17, 2016, Chittagong, Bangladesh.
- N. J. Farin, A. Rahman, N. Mansoor, S. Hossain, "WoTCoMS: A Novel Cross-Layered Web-of-Things Based Framework for Course ManagementSystem", 1 ST International Conference on Advanced Information and Communication Technology 2016 (ICAICT 2016), May 16-17, 2016, Chittagong, Bangladesh.

- N. Adnan, R. Islam, S. Hossain, "Clustering Software Systems to Identify Subsystem Structures using Knowledge base", 5th Malaysian Engineering Software Conference (MYSEC2011), 2011, Universiti Teknologi Malaysia (UTM), Kuala Lumpur, Malaysia.
- M. Alam, S. Hossain, "Prediction Model for World Electricity Generation Concerning CO2 Emission", 6th International Conference on Electrical and Computer Engineering (ICECE 2010), December, 2010, Dhaka, Bangladesh.
- N. Giesecke, S. Hossain, S. Kim, M.D.H. Perkowski, "Search for Universal Ternary Quantum Gate Sets with Exact Minimum Costs," Proceedings of the Reed-Muller Conference, 2007, Oslo, Norway.
- M. Lukac, N. Giesecke, S. Hossain, S. Kim, M.D.H. Perkowski, "Quantum Behaviors: Synthesis and Measurement", Proceedings of the Reed-Muller Conference, 2007, Oslo Norway.
- Q. Williams, M. Kelley, C. Castillo, C.M. Lukac, S. Hossain, D.H. Kim, J. Allen, S.M. Sunardi, M.D.H. Perkowski, "An Emotional Mimicking Humanoid Biped Robot and its Quantum Control Based on the Contrsint Satisfaction Model", the proceedings of the International Conference, ULSI, 2007.
- S. Hossain, R.U. Islam, M.S. Hossain, "A System to Support Person Identification using Ear Biometrics", 7th International Conference on Computer and Information Technology, (ICCIT-2004), www.bracuniversity.net/iccit2004/, December 26-28, 2004, Dhaka, Bangladesh
- M.S. Hossain, M. Alamgir, S. Hossain, "An Object-Oriented Approach to Support Faster and Manipulation of Spatial Data", 19th International Conference on Computers and their Application (CATA-2004), March 18-20, 2004, Seattle, Washington, USA.
- M.M. Alam, S. Hossain, "Prediction model for world electricity generation concerning CO 2 emission", In Electrical and Computer Engineering (ICECE), 2010 International Conference on (pp. 342-345), Dhaka, Bangladesh.
- S. Hossain, M. Perkowski, F. Zhao, "Minimal Graph Coloring using the Quantum Algorithm of Grover and the importance of Quantum Composition/Layout Problem in the complete design of Quantum Oracles", 9th International Workshop on Boolean Problems, September16-17, 2010, Freiberg (Sachsen), Germany.
- M.S. Hossain, C.G. Davies, S. Hossain, "An Information System to Visualise and Analyse Flood" Proceedings of 5 th International Conference on Computer and Information Technology (ICCIT), East West University, December, 2002, Dhaka, pp. 559-564.ISBN: 984-32-0450 6
- M.N. Islam, M.H. Seddiqui, S. Hossainand M.M. Hassan, "An Optimal Bangla Keyboard Layout", Proceedings of 5th International Conference on Computer and Information Technology (ICCIT), East West University, December, 2002, Dhaka, pp. 227-232. ISBN: 984-32-0450-6
- D. Gupta, E.H. Fahad, M.S. Hossain, K. Andersson & S. Hossain. (2019). A Digital Personal Assistant using Bangla Voice Command Recognition and Face Detection, In: Proceedings of IEEE International Conference on Robotics, Automation, Artificial-Intelligence and Internet-of-Things 2019, November 29 – December 1, 2019, Dhaka, Bangladesh.
- R.R. Chowdhury, M.S. Hossain, S. Hossain & K. Andersson. (2019). Analyzing Sentiment of Movie Reviews in Bangla by Applying Machine Learning Techniques, In: Proceedings of 2nd International Conference on Bangla Speech and Language Processing (ICBSLP),IEEE, 27-28 September, 2019, Shahjalal University of Science and Technology, Sylhet, Bangladesh
- M.R. Chowdhury, M.S. Hossain, R.U. Islam, K. Andersson & S. Hossain. (2019). Bangla Handwritten Character Recognition Using Convolutional Neural network with Data Augmentation, In: Proceedings of Joint 8th International Conference on Information, Electronics and Vision (ICIEV), IEEE, May 30- June 2, 2019, Eastern Washington University, USA
- T.U. Ahmed, S. Hossain, M.S. Hossain, R.U. Islam & K. Andersson. (2019). Facial Expression Recognition Using Covulutional Neural Network with Data Augmentation, In: Proceedings of Joint 8th International Conference on Information, Electronics and Vision (ICIEV), IEEE, May 30- June 2, 2019, Eastern Washington University, USA
- T.U. Ahmed, S. Hossain, M.S. Hossain, R.U. Islam & K. Andersson. (2019). A Deep Learning Approach with Data Augmentation to Recognise Facial Expression in Real Time (Submitted as a book chapter for a Springer book)
- M.R. Chowdhury, M.S. Hossain, R.U. Islam, K. Andersson & S. Hossain. (2019). Bangla and Hindi Handwriting Character Recognition using Deep Learning and Combined Methodology Approach (Submitted as a book chapter for a Springer book)

INTERESTS & EXTRACURRICULAR ACTIVITIES

- Actively participated in VISION-2021 FORUM, aiming for a hunger-free and poverty-free Bangladesh.
- Passionate about developing international academic collaborations and fostering cross-border research.
- Keen to organize an International Math Olympiad (IMO) in Bangladesh to promote STEM education.
- Engaged in social welfare initiatives, including providing aid to flood-affected communities and distributing clothing to underprivileged populations.
- Dedicated to teaching basic IT skills to homeless children in Dhaka, empowering them through digital literacy.
- Organized Lego Robotics training sessions for high school students, promoting STEM education and innovation.
- Volunteered at the International Symposium on Low Power Electronics and Design (ISLPED'07) in Portland, Oregon, USA.
- Contributed to Robotics Club activities at Portland State University.
- Assisted at Multnomah Community Health Center, Oregon, USA, in community outreach programs.
- Conducted seminars and technical training on Orcad PSPICE at IEEE-certified undergraduate engineering events in Portland.
- Volunteered for Kids Bangla School, Oregon, USA, supporting language and cultural education for children.
- Enthusiastic about hiking, volunteering, stamp collection, traveling, swimming, reading, and music.