Md. Ariful Islam

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Md. Ariful Islam
https://www.du.ac.bd/faculty/faculty_details/RME/2712

Employment History

April 30, 2023 – · · · ·

Assistant Professor
Department of Robotics and Mechatronics Engineering
University of Dhaka, Dhaka-1000, Bangladesh.

January 1, 2023 – Present

Adjunct Faculty
Department of Islamic Studies
University of Dhaka.

November 1, 2022 – Present

Adjunct Faculty
Intitute of Leather Engineering and Technology
University of Dhaka.

August 15, 2023 – February 15, 2024

Adjunct Faculty
Department of Computer Science and Engineering
Bangabandhu Sheikh Mujibur Rahman Digital University, Kaliakair, Gazipur-1750, Bangladesh.

September 1, 2023 – March 14, 2024

Adjunct Faculty
Department of Computer Science and Engineering
Sheikh Hasina University, Netrokona, Bangladesh.

May 28, 2023 – September 5, 2023

Adjunct Faculty
Department of Computer Science and Engineering
University of Liberal Arts Bangladesh.

February 2, 2022 – May 24, 2022

Adjunct Faculty
Department of Computer Science and Engineering
East West University.

October 2, 2019 – April 29, 2023

Lecturer
Department of Robotics and Mechatronics Engineering
University of Dhaka, Dhaka-1000, Bangladesh.

July, 2019 – September, 2019

Adjunct Faculty
Department of Archaeology
Comilla University, Cumilla-3506, Bangladesh.

February 27, 2019 – September 30, 2019

Lecturer
Department of Information and Communication Technology
Comilla University, Cumilla-3506, Bangladesh.

Education

November 2016 – September 2018

M.Sc in Electrical and Electronic Engineering
Department of Electrical and Electronic Engineering
Faculty of Engineering and Technology, University of Dhaka.
CGPA : 3.98 out of 4.00
Merit Position: First
Thesis title: *Modeling and Simulation of the effect of dropped calls on cell traffic to improve the quality of service in 3G based cellular network.*

January, 2012 – October 2016

B.Sc in Electrical and Electronic Engineering
Department of Electrical and Electronic Engineering
Faculty of Engineering and Technology, University of Dhaka.
CGPA : 3.77 out of 4.00
Merit Position: Fourth
Thesis title: *Estimation of the base station coverage area in GSM mobile communication system.*

August 2008 – April 2010

Higher Secondary Certificate (HSC)
Subject: Science
Ispahani Public School and College, Cumilla Cantonment, Cumilla, Bangladesh.
GPA : 5 out of 5

January 2006 – February 2008

Secondary School Certificate (SSC)
Subject: Science
Ispahani Public School and College, Cumilla Cantonment, Cumilla, Bangladesh.
GPA : 5 out of 5

Research Interests

Machine Learning, Deep Learning, Bio-robotics, Signal Processing, Robotics in Blue Economy

Research Publications

Journal Articles

1. M. A. Islam, M. Z. H. Majumder, M. A. Hussein, K. M. Hossain, and M. S. Miah, "A review of machine learning and deep learning algorithms for parkinson's disease detection using handwriting and voice datasets," *Heliyon*, 2024.
2. M. A. Islam, M. Z. H. Majumder, M. S. Miah, and S. Jannaty, "Precision healthcare: A deep dive into machine learning algorithms and feature selection strategies for accurate heart disease prediction," *Computers in Biology and Medicine*, p. 108 432, 2024.
3. M. Z. H. Majumder, M. T. A. Shampa, M. A. Islam, S. A. Deowan, and F. Hafiz, "Marine renewable energy harnessing for sustainable development in bangladesh: A technological review," *Energy Reports*, vol. 11, pp. 1342–1362, 2024.
4. M. M. Uttsha, A. N. Haque, T. T. Banna, S. A. Deowan, M. A. Islam, and H. M. H. Babu, "Enhancing agricultural automation through weather invariant soil parameter prediction using machine learning," *Heliyon*, vol. 10, no. 7, 2024.
5. S. E. Arman, S. S. Rahman, N. Irtisam, *et al.*, "Intracranial hemorrhage classification from ct scan using deep learning and bayesian optimization," *IEEE Access*, 2023.

6. M. A. Islam, M. M. Hasan, and S. A. Deowan, "Robot-assisted training for children with autism spectrum disorder: A review," *Journal of Intelligent & Robotic Systems*, vol. 108, no. 3, p. 41, 2023.
7. M. A. Islam, M. Z. H. Majumder, and M. A. Hussein, "Chronic kidney disease prediction based on machine learning algorithms," *Journal of Pathology Informatics, Q1, IF: 3.23*, p. 100 189, 2023.
8. M. Islam M.A. Shampa, "Precipitation prediction in bangladesh using machine learning approach," *Int. J. of Hydrology Science and Technology, Q3, IF: 1.34*, 2023.
9. P. C. Kar and M. A. Islam, "Design and performance analysis of a rectenna system for charging a mobile phone from ambient em waves," *Heliyon, Q1, IF: 3.778*, vol. 9, no. 3, 2023.
10. M. M. Hasan, M. A. Islam, S. Rahman, M. R. Frater, and J. F. Arnold, "No-reference quality assessment of transmitted stereoscopic videos based on human visual system," *Applied Sciences, Q2, IF: 2.838*, vol. 12, no. 19, p. 10 090, 2022.
11. K. M. Hossain, M. A. Islam, S. Hossain, A. Nijholt, and M. A. R. Ahad, "Status of deep learning for eeg-based brain–computer interface applications," *Frontiers in computational neuroscience, Q2, IF: 3.38*, vol. 16, 2022.
12. M. A. Islam and M. T. A. Shampa, "Rip current: A potential hazard zones detection in saint martin's island using machine learning approach," *ELCVIA Electronic Letters on Computer Vision and Image Analysis*, vol. 21, no. 2, pp. 63–81, 2022.
13. M. Islam, M. Shampa, T. Alim, *et al.*, "Convolutional neural network based marine cetaceans detection around the swatch of no ground in the bay of bengal," *International Journal of Computing and Digital System, Q3, IF: 1.01*, 2021.
14. M. A. Islam, A. Begum, and M. R. Hasan, "Mathematical analysis of improving the system capacity and signal to interference ratio in cellular mobile communication," *Journal of Engineering Advancements*, vol. 2, no. 01, pp. 24–34, 2021.
15. P. C. Kar, M. A. Islam, J. Chakraborti, and S. Sutradhar, "Mathematical performance analysis of the absorbing sun light for rotating and non-rotating solar cell panel.," *Journal of Theoretical and Applied Information Technology*, vol. 100, no. 10, 2021.
16. P. C. Kar, M. A. Islam, and A. Paul, "Experimental circuit model for increasing the signal strength level of a mobile phone into a lift," *International Journal*, vol. 10, no. 2, 2021.
17. T. Akhter, M. A. Islam, and S. Islam, "Artificial neural network based covid-19 suspected area identification," *Journal of Engineering Advancements*, vol. 1, no. 04, pp. 188–194, 2020.
18. M. A. Islam, T. Akhter, A. Begum, M. R. Hasan, and F. S. Rafi, "Brain tumor detection from mri images using image processing," *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*, vol. 9, 2020.
19. M. A. Islam, M. R. Hasan, and A. Begum, "Improvement of the handover performance and channel allocation scheme using fuzzy logic, artificial neural network and neuro-fuzzy system to reduce call drop in cellular network," *Journal of Engineering Advancements*, vol. 1, no. 04, pp. 130–138, 2020.

Research Activities

2023-Present	Research Associate, Data and Design Lab, "Improving Quality of Power Supply to the Industrial Clusters around Dhaka City" Funded by BEPRC (Bangladesh Energy and power Research Council).
2023-2024	Project Director, "Unraveling Bacterial Resistance Patterns: Deep Learning Approaches for High-Resolution Drug Target Profiling" funded by University Grant Commission, Bangladesh.

Research Activities (continued)

2022-2023	Principle Investigator, "Modeling of Hybrid Electric Vehicle for Low Emission" funded by Centennial Research Grant (Phase 2, 2021-2022) of University of Dhaka.
2021-2022	Co-principle Investigator, "Diagnosis of Intracranial Hemorrhage from CT Scan of Head based Using Deep Learning and Bayesian Optimization" funded by Centennial Research Grant (Phase 1, 2021-2022) of University of Dhaka.
2020-2021	Co-principle Investigator, "Artificial Intelligence based Smart Agriculture System" funded by Ministry of Science and Technology (2020-2021) of the government of Bangladesh

Skills

Languages	Strong reading, writing and speaking competencies for English and Bengali.
Coding	Python, C, C++, JAVA, MATLAB Simulink, SQL, SolidWorks, AutoCAD, Proteus, HTML, CSS, Photoshop, CISCO packet tracer, Microsoft Office, LaTeX, …
Misc.	Academic research, teaching, training, consultation, LaTeX typesetting and publishing.

Awards and Experiences

Awards and Achievements

2017–2018	**National Science and Technology Fellowship** , funded for Master's Thesis by Govt. Peoples Republic of Bangladesh.
2012–2015	**Merit Scholarship**, funded by University of Dhaka for academic excellency.
2003-2007	**Bangladesh Army Welfare Scholarship**, for academic excellency.
2008	**General Grade Scholarship** , for academic excellency of school certificate examination.
2005	**Talent Pool**, Junior Scholarship.

Social Skills and Competences

2022– present	**House Tutor**, Mastar Da Surja Sen Hall, University of Dhaka.
2017–2018	**Dhaka University Press Reporter**, bdmorning.com.
	General Secretary, University Student's Association of Comilla.
2012–2017	**Football Player**, Department of Electrical and Electronic Engineering, University of Dhaka.
2012–present	**Donor and Member**, BADHAN (Voluntary Blood Donating Club).
2019–2022	**Moderator**, Robotics and Mechatronics Club, University of Dhaka.
2022–present	**Moderator**, Shahidullah Hall EEE Student Association, University of Dhaka.

Subject Taught

Dept. of Robotics and Mechatronics Engineering, University of Dhaka

2 October, 2019–present	Fundamentals of Electrical and Electronic Engineering (Theory+Lab), Digital Signal Processing (Theory+Lab), Instrumentation and Measurements (Theory+Lab), Engineering Mechanics, Mechanics of Solids and Fluids (Theory+Lab), Power Electronics and Drives (Theory+Lab), Electrical Machines, Fundamentals of Mechanical Engineering, Digital Logic Circuit and Microprocessor (Theory+Lab).

Subject Taught (continued)

Dept. of Computer Science and Engineering, University of Liberal Arts Bangladesh

May 28, 2023–September 5, 2023 Digitial Logic Design (Theory+Lab)

Dept. of Internet of Things and Robotics Engineering, Bangabandhu Digital University

August 15, 2023–February 15, 2023 Network Protocols of IoT

Dept. of Computer Science and Engineering, Sheikh Hasina University, Netrokona

September 1, 2023–March 14, 2024 Introduction to Mechatronics

Dept. of Information and Communication Technology, Comilla University

27 February, 2019– 30 September, 2019 Object-Oriented Programming with C++ (Theory+Lab), Digital Signal Processing (Theory+Lab), Image Processing (Theory+Lab), Analog Communication (Theory+Lab), Network Design and Optimization (Theory+Lab).

Dept. of Archaeology, Comilla University

July 2019–September, 2019 Computer in Archaeology.

Institute of Leather Engineering and Technology, University of Dhaka

1 November, 2021–present Computer Graphics Design (Lab), Fundamentals of Computer and Information Engineering (Theory+Lab).

Dept. of Computer Science and Engineering, East West University, Bangladesh

1 February, 2022– 30 May, 2022 Electronic Circuit (Theory+Lab)

Dept. of Islamic Studies, University of Dhaka

1 January, 2023–present Computer Literacy (Theory+Lab)

Relevant Coursework

Graduate

November, 2016–September, 2018 Power Plant Engineering, Fuzzy Neural Control System, Information and Network Security, Solid State Physics, Biomedical Signal & Telemedicine, Digital Image Processing, High Speed Computer Network.

Undergraduate

January, 2012– September, 2016 Computer Fundamentals and Programming in C, Analog Electronics, Nuclear Physics, Electrical Machines, Digital Electronics, Quantum Mechanics and Physical Electronics, Electrical Circuit Analysis, Electromagnetic Theory and Antenna, Radio and Television Engineering, Telecommunication Networks, Material Science, Advanced Electronic Circuits, Electronic Devices, Industrial and Power Electronics, Microprocessors and Assembly Language, Computer Organization and Architecture, Renewable Energy Technology, Optical Fibre Communication, Microwave and Satellite Communication, Data Communication and Computer Network, Digital Signal Processing, Industrial and Biomedical Instrumentation, Semiconductor Technology and VLSI Technology, Control Engineering, Communication Theory, Computer Peripherals and Interfacing, Mobile Cellular Communication.

Relevant Coursework (continued)

Basic Courses

January, 2012–September, 2016	Basic Statistics, Calculus, Linear Algebra and ODE, Mathematical Methods.

Self Study

September, 2018– Desember, 2020	Introduction to Machine Learning and Deep Learning, Image Processing and Robotic Vision, Data Analytics and Visualization, MATLAB Deep Learning, Deep Learning for time series forecasting, Image Processing and Acquisition using Python, EEG based Brain Computer Interface, Power Systems.