

Prof. Tarek Hasan Al Mahmud, PhD

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OBJECTIVES

I aim to contribute innovative solutions in advanced communication and AI backed technologies for global impact with over 15 years of academic and research experience. This commitment to innovation drives my aspiration to advance my professional career to engage with a prominent and forward-thinking institution focused on societal transformation and sustainable development benefiting humanity.

PROFESSIONAL AND RESEARCH EXPERIENCES

31 Aug 2022 ~ Present	Professor Department of Information and Communication Technology Islamic University, Kushtia, Bangladesh
01 Nov 2023 ~ 28 Feb 2025	Postdoctoral Fellow Department of Electrical Engineering Chalmers University of Technology, Sweden (world ranking: 129)
29 Aug 2023 ~ 31 Oct 2023	Postdoctoral Fellow Department of Nursing, Faculty of Medicine The Hong Kong University, Hong Kong (world ranking: 17)
01 June 2022 ~ 28 Aug 2023	Postdoctoral Fellow Department of Electronic and Information Engineering and Department of Mechanical Engineering, The Hong Kong Polytechnic University, Hong Kong (world ranking: 57) Innovation Technology Company Limited and the Innovation and Technology Commission, Govt. of Hong Kong
31 Aug 2019 ~ 30 Aug 2022	Associate Professor Department of Information and Communication Technology Islamic University, Kushtia, Bangladesh
28 Mar 2012 ~ 30 Aug 2019	Assistant Professor Department of Information and Communication Engineering Islamic University, Kushtia, Bangladesh
18 Apr 2010 ~ 27 Mar 2012	Lecturer Department of Information and Communication Engineering Islamic University, Kushtia, Bangladesh
8 Mar 2008 ~ 17 Apr 2010	Lecturer Department of Computer Science and Telecommunication Engineering Noakhali Science and Technology University, Noakhali, Bangladesh
7 Apr 2007 ~ 7 Mar 2008	System Administrator and Full Time Teacher Department of Information Technology TAFE, South Western Sydney Institute (Govt.), Australia Leadership University College, Bangladesh

ACADEMIC QUALIFICATIONS

2019	Doctor of Philosophy (PhD) in Information & Communication Engineering Specialized in Signal & Information Processing , Dept. of Electronic Engineering and Information Science, Institute of Statistical Signal Processing, University of Science and Technology of China, Hefei, China (world ranking: 53)
2008	Master of Science (M. Sc.) in Information & Communication Engineering Islamic University, Kushtia, Bangladesh. Result: First Class First Grade: 4.00 out of 4.00
2005	Bachelor of Science (Hon's) in Information & Communication Engineering Islamic University, Kushtia, Bangladesh. Result: First Class First Grade: 3.77 out of 4.00
2000	Higher Secondary Certificate (HSC) Rajshahi New Govt. Degree College, Rajshahi, Bangladesh Result: 1st Division (Star) Marks: 800 (80%)
1998	Secondary School Certificate (SSC) Rajshahi Collegiate School, Rajshahi, Bangladesh Result: 1st Division (Star) Marks: 899 (89.9%)

RESEARCH INTEREST AND CONTRIBUTIONS

Currently my main research focuses on 6G communication systems, antenna beamforming, machine learning and data science. My broad research interests include Antenna, Sensing and Green Technology, Signal and Information Processing, particularly Array Signal Processing, Direction of Arrival Estimation, Multi Antenna Communication Systems for 6G communication, ML/AI in Antenna Design and Development, Data Science, Artificial Intelligence on Audio Signal and Image Processing.

Postdoctoral Research at CUT, Sweden The position as a visiting researcher at Chalmers University of Technology collaborative project with Ericsson AB, has been offered from September 1st and endure for the following two years. The focus is on developing advanced receiver-side algorithms for base stations that can analyze and compensate for signal distortions caused by hardware imperfections (e.g., amplifiers, oscillators, antennas) in both base stations and user terminals. The goal is to ensure high-quality signal reception even under significant distortion, thereby enhancing robust communication in next-generation networks.

Postdoctoral Research at PolyU, HK I contributed to the ground-breaking “Tunable Sonic Perception Control Headset” project (UIM381), funded by the Innovation and Technology Fund (ITF) in collaboration with PolyU, the Innovation Technology Company Ltd., and the HKSAR Government. My role focused on developing advanced end-user products—such as noise-canceling and tunable headsets—to support individuals, particularly children with Autism Spectrum Disorder (ASD), in managing auditory sensitivity and disability. The underlying technology supports a range of ICT applications, including smartphones, hearing aids, and AI-driven devices.

PhD Research **Thesis Title:** Virtual Extension of Co-arrays exploiting Coprime Arrays for Underdetermined DOA Estimation

The PhD research addressed the challenge of increasing array aperture using a limited number of elements to enhance resolution in Direction of Arrival (DOA) estimation. A novel coprime structure named VECADS was developed, which constructs a larger continuous virtual array by concurrently utilizing the sum and difference co-arrays without requiring additional sensors or frequencies. To further enhance resolution and degrees of freedom (DOF), I proposed an augmentation technique called CATARCS (Translocated and Axis Rotated Compressed Subarrays), employing a rank-incremented Iterative Power Factorization (IPF) interpolation method successfully applied for the first time in this context. This allowed expansion of the autocorrelation matrix, offering significant potential for practical matrix recovery. Additionally, it introduced a novel structure to estimate the number of consecutive lags by incorporating an extra subarray, leveraging second-order difference co-arrays and nuclear norm minimization

(NNM) for interpolating missing lags. The design was further optimized by exploiting fourth-order difference co-arrays, achieving higher DOF while enabling space and cost-efficient implementations particularly valuable for compact and resource constrained sensor applications.

ON-GOING AND COMPLETED PROJECTs (ACADEMIC)

- Chalmers-Lund Advanced Semiconductor System Design Center (ClassIC)
Funded By: Lund University and The Chalmers University of Technology, Sweden
Role: Team Leader
- A Dual-frequency Distributed MIMO Approach for Future 6G Applications
Funded By: Horizon Europe (HORIZON) and European Commission
Role: Team Leader
- Advanced Receiver Algorithms – Receiver-side Algorithms to Mitigate Error-Vector Modulus of Received Signals
Role: Team Leader
- Distributed and Autonomous Radars
Funded By: European Union, The Chalmers University of Technology, Sweden, and SAAB, Sweden
Role: Team Leader
- Antenna Systems Experts for 6G Non-Terrestrial Networks (ANTERRA)
Funded By: Horizon Europe (HORIZON) and European Commission
Role: Team Leader
- Energy-Efficient Radio Systems at 100 GHz and Beyond: Antennas, Transceivers and Waveforms
Role: Team Leader
- DSP-assisted Wideband & Efficient Transceivers (SWEET)
Funded By: European Union, The Chalmers University of Technology, Sweden, and SAAB, Sweden
Role: Team Leader
- Optimal A/D Conversion for Massive MIMO Utilizing Spatial and Temporal Correlation
Role: Team Leader
- Revolutionizing Adolescent Idiopathic Scoliosis Screening with AlignProCARE: An AI-driven Mobile Application for Accurate and Efficient Detection
Role: Team Leader
- Efficacy and Feasibility of Dietary Interventions Delivered by Mobile Applications among the Cancer Population: A Systematic Review Protocol
Funded By: University of Hong Kong
Role: Team Leader
- AI-based Multiclass Children Hypertension and Obesity Prediction System
Funded By: University of Hong Kong
Role: Team Leader
- Tunable Sonic Perception Control Headset (for Auditory Abnormal Solution, Especially for Individuals with Autism Spectrum Disorder)
Funded By: Hong Kong Government Innovation and Technology Commission (ITC) and The Hong Kong Polytechnic University, in collaboration with Innovation Technology Company Ltd.
Role: Team Leader
- Information Technology Research Center for Transferrable Technology
Role: Research Associate
- Best Suitable Channel Equalization Algorithm for Wireless, Optical and Smart Antenna Systems to Mitigate Echo Problem
Role: Team Leader

- University Central Library and Hall Automation and Online Result Publishing
Role: Developer
- Software Development of a Lost Call Telephone System using JAVA
Role: Software Developer

SCHOLARSHIPS, AWARDS AND ACHIEVEMENTS

2024	The best paper award: IWAIT 2024, Malaysia
2024	Received best paper award: DICTA 2024
2022	Fellow under Innovation and Technology Commission, Hong Kong Awarded fellowship with Innovation and Technology Fund under ITC of Hong Kong Government.
2018	Best Research Paper and Presentation Awards, 2018 5th Post Graduate Academic Forum, among all Laboratories of National Engineering Laboratory of Speech and Natural Language Processing Sponsored by iFlyTek University of Science and Technology of China, Hefei, Anhui, China
2015	CAS-TWAS Scholarship 2015 Provided by China Academy of Sciences and World Academy of Sciences, UNESCO, UN, Brazil, Italy
2005	Scholarship for master's programme
2001 ~ 2004	Scholarship for undergraduate/bachelor's programme
2000	Board Scholarship for HSC result
1998	Board Scholarship for SSC result
1996	Talent Pool Merit Scholarship
1992 ~ 1995	Abdul Matin Merit Scholarship

PROFESSIONAL AND VOLUNTEER ACTIVITIES

Reviewer	Signal Processing (SCI Indexed, Impact Factor: 4.4) IEEE Wireless Communications Letters (SCI Indexed, Impact Factor: 6.74) IEEE Transactions on Vehicular Technology (SCI Indexed, IF: 6.8) IEEE Transactions on Geoscience and Remote Sensing (IF: 8.2) IEEE Intelligent Transportation Systems Transactions and Magazine (9.551) IEEE Transactions on Signal Processing (SCI Indexed, IF: 5.4) IEEE Transactions on Aerospace and Electronic Systems (SCI, IF: 4.4) IEEE Transactions on Circuits and Systems II: Express Briefs (SCI, IF: 4.4) IEEE Transactions on Radar Systems IEEE Systems Journal (SCI Indexed, Impact Factor: 4.463) IEEE Access (SCI Indexed, Impact Factor: 4.098) IEEE Signal Processing Letters (SCI Indexed, Impact Factor: 3.9) IEEE Sensors Letters (SCI Indexed, Impact Factor: 2.8) IET Radar, Sonar and Navigation (SCI Indexed, Impact Factor: 2.51) IET Signal Processing (SCI Indexed, Impact Factor: 1.7) IET The Journal of Engineering (SCI Indexed, Impact Factor: 2.588) Waves in Random and Complex Media (SCI Indexed, Impact Factor: 4.853) Electronics Letter (SCI Indexed, Impact Factor: 1.316) Electronics and Telecommunications Research Institute Journal (IF: 1.4) Mathematical Problems in Engineering (SCI Indexed, Impact Factor: 1.009) International Journal of Aerospace Engineering (SCI Indexed, IF: 1.4)
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NON-ACADEMIC AND ADMINISTRATIVE POSITIONS

Project Leading	Member, HEQEP Project (AIF-UGC) Information Technology Research and Resource center Islamic University, Kushtia, Bangladesh
	Member, Technical Committee Online Application Process, Admission 2012 Islamic University, Kushtia, Bangladesh
	Member, Advisory Committee and Implementation Committee Online Application Process, Admission 2011 Islamic University, Kushtia, Bangladesh
Technical	Member, University Web-page designing and Automation System Noakhali Science and Technology University, Bangladesh
	Advisor, Central On-line library Automation systems Noakhali Science and Technology University, Bangladesh
Academic	Faculty Member , Faculty of Science and Technology Islamic University, Kushtia, Bangladesh
	Faculty Member , Faculty of Engineering Noakhali Science and Technology University, Bangladesh
Administrative	Assistant Director Computer Center, Islamic University, Kushtia
	House Tutor Khaleda Zia Hall, Islamic University, Kushtia
	Proctor (at NSTU) Noakhali Science and Technology University
	Provost (Acting) (at NSTU), Hazrat Bibi Khadija Hall Noakhali Science and Technology University
	PUO (at NSTU) Bangladesh National Cadet Core
	Convener (at NSTU) National days observance committee
Committee Member	Planning Committee Member Department of ICE, IU, Department of CSTE, NSTU
	Convener (at NSTU) Industrial Attachment and Internship Committee Computer Science and Telecommunication Engineering
Extra Curricula	Moderator (at NSTU) Debate Society, Noakhali Science and Technology University
	Moderator Bangladesh Open Source Networking
	Cultural Member Association of Universities of Bangladesh
	Advisor Prothom-Alo Bandhu-shova

TECHNICAL COMPETENCY

- Programming with C, C++, C#, Visual Basic & C++, MatLab, Python, Pascal, Java, HTML, XML, Programmable Logic control, Prolog etc.
- Database Design with Oracle, Developer, ASP.NET, PHP, & My SQL
- Software and Hardware troubleshooting, Maintenance
- Expertise on LAN, WAN, ISP Setup on Linux Platform, DNS, DHCP, Networking Simulation, Broadband Internet Connection Setup, CCNA.
- Operating System: Windows and Exchange Server, Windows and Linux.
- Office Productivity Tools, MS Access and Internet Utilities, Photoshop, Illustrator

SCIENTIFIC CONTRIBUTIONS AND PUBLICATIONS

International Journal

1. **T. H. A. Mahmud**, Z. Ye, K. Shabir, R. Zheng and M. S. Islam, "Off-Grid DOA Estimation Aiding Virtual Extension of Coprime Arrays Exploiting Fourth Order Difference Co-Array With Interpolation," in *IEEE Access* (IF: 4.098), vol. 6, pp. 46097-46109, 14 August 2018. doi: 10.1109/ACCESS.2018.2865419, [SCI: GU3AB][EI: 20183405722383].
2. **Tarek Hasan Al MAHMUD**, Zhongfu YE, Kashif SHABIR, Yawar Ali SHEIKH, DOA Estimation of Quasi-Stationary Signals Exploiting Virtual Extension of Coprime Array Imbibing Difference and Sum Co-Array, *IEICE Transactions on Communications* (IF: 1.090), 2018, Volume E101.B, Issue 8, Pages 1876-1883, August 01, 2018, <https://doi.org/10.1587/transcom.2017EBP3375>, [SCI: GT0QL].
3. **T. H. A. Mahmud**, K. Shabir, R. Zheng and Z. Ye, "Interpolating Coprime Arrays With Translocated and Axis Rotated Compressed Subarrays by Iterative Power Factorization for DOA Estimation," in *IEEE Access* (IF: 4.098), vol. 6, pp. 16445-16453, 7 February 2018. doi: 10.1109/ACCESS.2018.2803050, [SCI: GC9GF] [EI: 20180704790505].
4. Hossain, M.I., **Al Mahmud, T.H.**, Islam, M.S. et al. Dual transform based joint learning single channel speech separation using generative joint dictionary learning. *Multimedia Tools Appl.*, (2022), (IF: 2.757), 02 April 2022. <https://doi.org/10.1007/s11042-022-12816-0>.
5. Kashif Shabir, **Tarek Hasan Al Mahmud**, Rui Zheng and Zhongfu Ye, "Generalized Super-resolution DOA Estimation Array Configurations' Design Exploiting Sparsity in Coprime Arrays". *Circuits, Systems & Signal Processing (CSSP)* (IF: 1.922), pp. 1-16, 04 March 2019. doi: <https://doi.org/10.1007/s00034-019-01078-1>.
6. Rui Zheng, Xu Xu, Zhongfu Ye, **Tarek Hasan Al Mahmud**, Jisheng Dai, Kashif Shabir, Sparse Bayesian learning for off-grid DOA estimation with Gaussian mixture priors when both circular and non-circular sources coexist, *Signal Processing* (IF: 4.086), Volume 161, August, 2019, Pages 124-135, <https://doi.org/10.1016/j.sigpro.2019.03.021>.
7. Kashif Shabir, **Tarek Hasan Al Mahmud**, Rui Zheng, Zhongfu Ye. A low-complexity RARE-based 2-D DOA estimation algorithm for a mixture of circular and strictly noncircular sources. *Turkish Journal of Electrical Engineering*

- & Computer Sciences, (IF: 0.625), 26(5), pp. 2234-2245, 28 September 2018, <https://doi.org/10.3906/elk-1803-76>. [EI: 20184105930101].
8. Islam, M.S.; **Al Mahmud, T.H.**; Khan, W.U.; Ye, Z. Supervised Single Channel Speech Enhancement Based on Dual-Tree Complex Wavelet Transforms and Nonnegative Matrix Factorization Using the Joint Learning Process and Subband Smooth Ratio Mask. *Electronics* (IF: 2.110), 22 March 2019, 8(3), 353. doi:10.3390/electronics8030353.
 9. Islam, M.S., **Al Mahmud, T.H.**, Khan, W.U. et al. "Supervised Single Channel Speech Enhancement Based on Stationary Wavelet Transforms and Non-negative Matrix Factorization with Concatenated Framing Process and Subband Smooth Ratio Mask", *J Sign Process Syst.* (IF: 1.035) 2019, <https://doi.org/10.1007/s11265-019-01480-7>.
 10. **Tarek Hasan Al Mahmud**, Kashif Shabir, Rui Zheng, Zhongfu Ye and Md Shohidul Islam, "A Novel Array Structure with Higher DOF comprising Triplet Coprime Arrays for High Resolution DOA Estimation". Submission under process. *Digital Signal Processing Journal* (IF: 2.241).
 11. Kashif Shabir, Zhongfu Ye, **Tarek Hasan Al Mahmud**, Yawar Ali Sheikh and Rizwan Ullah, "Efficient Underdetermined DOA Estimation Algorithm by Extending Covariance Matrix Based on Non-Circularity using Coprime Array", *Communications on Applied Electronics (CAE)*, Vol.7, No.1, Pages 1-5, May 2017, doi: 10.5120/cae2017652580.
 12. Yawar A. Sheikh, Zhongfu Ye, Kashif Shabir, **Tarek Hasan Al Mahmud**, Rizwan Ullah, 2-D Near Field Source Localization by Evolutionary Technique Exploiting the L-Type Geometry of Sensor Array, *Circulation in Computer Science(CCS)*, Vol.2, No.3, Pages 11-16, Apr. 2017, doi: 10.22632/ccs-2017-251-64.
 13. **Dr. Tarek Hasan Al Mahmud**, Khandaker Takdir Ahmed, Md. Jashim Uddin, Mustakim Musully Pias, Md. Abu Jubaer Rupok, "An Automatic Intelligent Framework for a Phishing Detection System Based on Machine Learning with URLs Features", *International Journal of Scientific & Engineering Research*, Volume 13, Issue 8, August-2022, ISSN 2229-5518.
 14. **Dr. Tarek Hasan Al Mahmud**, Khandaker Takdir Ahmed, Md. Jashim Uddin, Md. Abdul Aziz, Md. Abu Jubaer Rupok, Md. Mustakim Musully Pias, Debashis Biswas, "An Approach to Increase the Network Life Time of Wireless Sensor Network for Heterogeneous Node using Particle Swarm Optimization (PSO) Algorithm and Genetic Algorithm (GA)", *IOSR Journal of Electronics and Communication Engineering (IOSR-JECE)*, Volume 17, Issue 4, Ser. I (Jul. – Aug. 2022), PP 08-19, e-ISSN: 2278-2834, p-ISSN: 2278-8735.
 15. Khandaker Takdir Ahmed1, **Dr. Tarek Hasan Al Mahmud**, Md. Jashim Uddin, Md. Mustakim Musully Pias, "A Novel AODV AODV-Based Algorithm to Improve MANET Efficiency and Performance", *International Journal of Scientific & Engineering Research*, Volume 13, Issue 7, July-2022, ISSN 2229-5518.
 16. Khandaker Takdir Ahmed, **Dr. Tarek Hasan Al Mahmud**, Md. Jashim Uddin, Md. Mustakim Musully Pias, "Improve the Performance of AODV-SOS and FORP-SOS Routing Protocols in MANET for Emergency Rescue Services Based on Obtained Signal Intensity", *International Journal of Scientific & Engineering Research* Volume 13, Issue 5, May-2022 1051 ISSN 2229-5518.

- 17.** **Tarek Hasan-Al-Mahmud**, Dr. M. Mahbubur Rahman, Sumon Kumar Debnath, “Performance Analysis of Best suited Adaptive Equalization Algorithm for Optical Communication” Published in Journal of Telecommunications (ISSN 2042-8839), Volume 1, Issue 2, PP. 35-41, March 2010.
- 18.** Md. Mainul Islam Mamun, **Tarek Hasan-Al-Mahmud**, Sumon Kumar Debnath and Md. Zahidul Islam, (2010) “Analyzing the Low Power Wireless Links for Wireless Sensor Networks”, Journal of Telecommunications (ISSN 2042-8839), Volume 1, Issue 1, PP. 123-126, February 2010, <https://doi.org/10.48550/arXiv.1002.4838>.
- 19.** Dr. M. Mahbubur Rahman, Md. Khairul Islam, **Tarek Hassan-Al-Mahmud**, A. R. Mahmud “Performance Analysis of Downlink Power Control in WCDMA System” International Journal of Scientific & Engineering Research, ISSN 2229-5518, Volume 3, Issue 8, August-2012.
- 20.** Dr. M. Mahbubur Rahman, Md. Amzad Hossain, **Tarek Hasan-Al Mahmud** and A. R. Mahmud “Performance Analysis of Channel Assignment Scheme in Wimax” IOSR Journal of Electronics and Communication Engineering (IOSRJECE) ISSN: 2278-2834 Volume 1, Issue 6, PP 24-30, July-Aug 2012, doi:10.9790/2834-0162430.
- National Journal**
- 21.** Paresh Chandra Barman, **Tarek Hasan-Al-Mahmud**, Bikash Chandra Singh. Classification and Identification of Meaningful Gene Using Non-Negative Matrix Factorization. Journal of Applied Science and Technology, Vol. 8, No.1, June 2012, pp 57-64, ISSN 2218-481X.
- 22.** **Tarek Hasan-Al-Mahmud**, Ashadun Nobi, M. Zamil Sultan, M. Mahbubur Rahman. Improving Stability, Steady-State Error Performance And Convergence Rate In Optical Communication Implementing AFS-MDFE Using ADG And TD Algorithm. Journal of Green World Foundation, ISSN 2076-3972, Inst. eng. tech. 1(1):21-29 January, 2010.
- 23.** Sumon Kumar Debnath, **Tarek Hasan-Al-Mahmud**, “Efficient Group Communication in Mobile Ad-hoc Network. Published in Journal of Green World Foundation, ISSN 2076-3972, Inst. eng. tech. 1(1):21-29 January, 2010
- 24.** Ashadun Nobi, **Tarek Hasan-Al-Mahmud**, “A fast monte carlo simulation for site percolation using hoshen-kopelman algorithm and canal search algorithm”. published in Computer Science and Engineering Research Journal(CSERJ), Vol. 05 (2008). ISSN: 1990-4010 Chittagong University of Engineering and Technology.(CUET)
- 25.** A. Nobi and **T. Mahmud**, “Determination of Fractal Dimension of the Stochastic Cantor Set Using Monte-Carlo Simulation and a Comparison with Analytical Solution”. Accepted for Journal of Computer Science, Volume 2, Number 1 & 2, December 2008. IBAIS University.
- 26.** A. Nobi and **T. Mahmud**, “Determination of Fractal Dimension of the Random Stochastic Cantor Set Using Monte-Carlo Simulation and a Comparison with Analytical Solution”. Accepted for Official Journal of Bangladesh Physical Society, ISSN 1816-1081.
- 27.** M. Zamil Sultan, Dr. Anis Ahmed, Ashadun Nobi, and **Tarek Hasan**, Analysis of the Characteristics of Triangular Corrugated Optical Waveguide, Published in Journal of Green World Foundation, ISSN 2076-3972, Inst. eng. tech. 1(1):9-15 January, 2010.

International Conference

28. **Tarek Hasan Al Mahmud**, Johnny C.K. Wong, SteveW.Y. Mung, Yat Sze Choy, Daniel P.K. Lun “Real-time Speech Enhancement using Deep Neural Network Based Beamforming”, International Workshop on Advanced Image Technology (IWAIT) 2024, Malaysia.

Selected as the best paper: IWAIT 2024

29. Musully Pias, **Tarek Hasan Al Mahmud**, Md Shafiqul Islam, Khandaker Takdir Ahmed, Md Jashim Uddin, Md Alamgir Hossain, Md Zahidul Islam “Deep Neural Network Based Adaptive Beamforming for Real-Time Speech Enhancement”, 25th International Conference on Digital Image Computing: Techniques and Applications (DICTA 2024), Perth, Australia.

Received best paper award: DICTA 2024

30. Md Shafiqul Islam, Mustakim Musully Pias, Nishat Tasnim, Ronok Hasan, Jalal Uddin, **Tarek Hasan Al Mahmud**, “Advancing Traffic Sign Detection and Recognition using Optimized Convolutional Neural Network” IEEE Conference on Computing Applications and Systems (COMPAS 2024), CUET IT Business Incubator, Chattogram, Bangladesh.

31. Md Shafiqul Islam, Md Mustakim Musully Pias, Alauddin Sabari, **Tarek Hasan Al Mahmud**, Md Zahidul Islam. "An Efficient Early Identification of Chronic Kidney Disease using Machine Learning Techniques" 27th International Conference on Computer and Information Technology (ICCIT 2024).

Domestic Conference

32. **Tarek Hasan-Al-Mahmud**, Dr. M. Mahbubur Rahman “Performance Analysis of AFS-MDFE with ADG and TD Algorithm for the Equalization in Optical Communication”. National Conference on Communication and Information Security (NCCIS). Daffodil University, Dhaka, Bangladesh. 23-24 November 2007, Bangladesh. Published as conference proceedings with 6 pages (from 49 to 54).

33. Design and Simulation of OFDM and Analyzing the Performances Comparing with QAM systems. **Tarek Hasan-Al-Mahmud**, M. Mahbubur Rahman and Tapan Kumar Godder National Conference on Electronics, Information and Telecommunication(NCEIT),Bangladesh Electronics Society (BES), 29-30, June,2007 Bangladesh page no. 122 ISBN-984-300-000645-7.

Books

34. “Information and Communication Technology” by **Tarek Hasan-Al-Mahmud** and Jashim Uddin. **Bangla enlarged version text & reference book** of Information and Communication Technology for eleventh and twelfth classes approved by National Curriculum and Text Book Board of Government.
35. “Information and Communication Technology” by **Tarek Hasan-Al-Mahmud** and Jashim Uddin. **Bangla version Lab book** of Information and Communication Technology for eleventh and twelfth classes approved by National Curriculum and Text Book Board of Government.
36. “Information and Communication Technology” by **Tarek Hasan-Al-Mahmud** and Jashim Uddin. **English version textbook** of Information and Communication Technology for eleventh and twelfth classes approved by National Curriculum and Text Book Board of Government.
37. “Information and Communication Technology” by Jashim Uddin, **Tarek Hasan-Al-Mahmud** and Engr. Anuj Biswas. **Bangla version textbook** of Information and Communication Technology for eleventh and twelfth classes approved by National Curriculum and Text Book Board of Government.

MAJOR COURSES TAUGHT IN UNDERGRADE AND POST-GRADE LEVEL

Signal Processing, Information Coding and Transmission, Digital Communications, Mobile and Cellular Communications, High-Speed and Broadband Networks, Networks Management and Security, Internet and Intranet Engineering, Image Processing and Pattern Recognition, Multimedia Services on Internet, Simulation and Modeling, Client Server Technology and System Programming, Artificial Intelligence, Statistics for Communication Engineering, Digital Signal Processing, Mobile and Cellular Communications, Telecommunication System Engineering, Computer Networking, Microprocessors and Interfacing, Optical Fiber Communications, Multimedia and Web Technology, Data Warehouse Systems, Strategic Planning & Decision Support Technology, System Analysis & Software Engineering, Management Information Systems & Technologies, Data Structure & Algorithm, Computer Architecture & Parallel Processing, Electromagnetic Theory and Antenna, E-Commerce and E-Governance.

REFERENCES**❖ Dr. Zhongfu Ye**

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❖ Dr. Xu Xu

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❖ Prof. Dr. Sanjoy Kumar Adhikary

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University Grant Commission, Bangladesh
Ex-Vice Chancellor
Noakhali Science and Technology University, Bangladesh
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Signature:



(Dr. Tarek Hasan Al Mahmud)