

# Dr. Md. Imran Hossain

## *Associate Professor*

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## **Objective**

I would like to show my immense aspiration to become a good teacher as well as a prolific researcher and to prove myself as a sincere and energetic person through extensive hard working and integrity in a reputed University. I am eager to develop a professional career by securing research position with a reputable and progressive organization that supports a learning environment enabling me to refine the skills I have acquired through formal learning, research and practical experiences.

## **Educational Background**

<b>Doctor of Engineering</b> [September 2018 to July 2022]	Information and Communication Engineering (ICE), Institute of Statistical Signal Processing, National Engineering Laboratory of Speech and Language Information Processing. University of Science and Technology of China(USTC) <b>Research Field:</b> Signal and Information Processing <b>Dissertation:</b> Dual Transform Based Supervised Single Channel Speech Separation <b>Medium of Instruction:</b> English <b>Scholarship Awarded:</b> Chinese Government Scholarship (CSC) 2018 <b>Supervisor:</b> Zhongfu Ye Professor Department of Electronic Engineering and Information Science Director Institute of Statistical Signal Processing, School of Information Science and Technology, University of Science and Technology of China, Hefei-230027, Anhui, China <b>Email:</b> yezf@ustc.edu.cn
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M.Sc. 2010 Thesis Group (Held in 2011)	<b>Master of Science</b> from the Department of Information and Communication Engineering (ICE), Islamic University, Kushtia-7003, Bangladesh <b>Medium of Instruction:</b> English <b>M.Sc. Thesis:</b> Performance Analysis of Energy Efficient Clustering in Wireless Sensor Networks <b>Result:</b> GPA 3.66 out of 4.00 <b>Merit Position:</b> First out of 45 students
B.Sc. 2009 Thesis Group (Held in 2010)	<b>Bachelor of Science (Hon's)</b> from the Department of Information and Communication Engineering (ICE), Islamic University, Kushtia-7003, Bangladesh <b>Medium of Instruction:</b> English <b>B.Sc. Thesis:</b> Automatic Road Sign Recognizer for an Intelligent Transport System <b>Result:</b> First Class (Marks-65.36%) <b>Merit Position:</b> First out of 45 students
H.S.C 2005	<b>Higher Secondary School Certificate</b> from Govt. Satkhira College, Satkhira. <b>Group:</b> Science <b>Board:</b> Jessore
S.S.C 2003	<b>Secondary School Certificate</b> from Kadakati Arar Secondary School. <b>Group:</b> Science <b>Board:</b> Jessore

## **Research Interest**

Speech Signal Processing, Image Processing, Deep Learning, Biomedical Signal and Image Processing.

## **Language Proficiency**

**Bangla-** Mother Tongue

**English-** Fluent both in speaking and writing

**Chinese-** HSK 3 score: - 253 out of 300 (Listening: 90, Reading: 87 and Writing: 76)

## **Professional Experiences**

08-02-2023 to Till now	<b>Associate Professor</b> in Information and Communication Engineering (ICE) department at Pabna University of Science and Technology (PUST), Rajapur-6600, Pabna, Bangladesh.
12-11-2014 to	<b>Assistant Professor</b> in Information and Communication Engineering (ICE) department at Pabna University of Science and Technology (PUST),

07-02-2023	Rajapur-6600, Pabna, Bangladesh.
12-11-2012 to 11-11-2014	<b>Lecturer</b> in Information and Communication Engineering (ICE) department at Pabna University of Science and Technology (PUST), Rajapur-6600, Pabna, Bangladesh.
02-02-2012 to 01-10-12	<b>Lecturer</b> in Computer Science and Engineering department (CSE) at University of Information Technology & Sciences (UITS), Baridhara, Dhaka-1212, Bangladesh.

## **Administrative and Other Experiences**

01-11-2021 to Till now	<b>Additional Director</b> , Information and Communication Technology Cell (ICT Cell) at Pabna University of Science and Technology (PUST), Rajapur-6600, Pabna, Bangladesh.
01-09-2018 to 01-07-2022	<b>Doctoral Fellow</b> , Institute of Statistical Signal Processing, School of Information Science and Technology, University of Science and Technology of China (USTC), Hefei-230027, Anhui, China.
15-10-2015 to 03-09-2018	<b>Additional Director</b> , Institutional Quality Assurance Cell (IQAC) at Pabna University of Science and Technology (PUST), Rajapur-6600, Pabna, Bangladesh.
2016-2018	<b>Executive Member</b> , Teacher-Officer Club at Pabna University of Science and Technology (PUST), Pabna-6600, Bangladesh.
2008-2010	<b>Secretary</b> of “Student Association of Information and Communication Engineering (SAICE)”, Islamic University, Kushtia-7003, Bangladesh.

## **Skills**

- Programming Language: C, C++, java, C#, Prolog etc.
- Wave development tools like Asp.net, PHP, HTML etc.
- Database management tools like Oracle, SQL, Mysql etc.
- Well acquainted with a number of PC based tools like MatLab, NS2 Simulator etc.
- Linux Server Configuration: Configure Telnet FTP NFS DNS Server, Mail Server etc.
- OS: Windows, Linux (Ubuntu, Fedora)
- MS office tools
- All frequently used Software and tools.

## **Academic Distinctions**

- Member of “Islamic University Computer Association (IUCA)”.
- **University Merit Scholarship** in every year.
- Awarded Chinese Government Scholarship (CSC) 2018 for Ph.D. Program.

## List of Publications

27	M. B. Hossen, Z. Ye, M. S. Hossain, <b>M. I. Hossain</b> , “ARAFNet: An Attribute Refinement Attention Fusion Network for Advanced Visual Captioning”, <i>Digital Signal Processing</i> , 2025, 105155, ISSN 1051-2004, <a href="https://doi.org/10.1016/j.dsp.2025.105155">https://doi.org/10.1016/j.dsp.2025.105155</a> .
26	Rashed <b>M. Hossain</b> M, Mahdi A, et al. (March 03, 2025), “Hybrid Machine Learning Models for Accurate Type 2 Diabetes Mellitus Prediction Using a Stacking Classifier and a Meta-Model Approach”. <i>Cureus J Comput Sci</i> 2: es44389-025-03135-0. doi: <a href="https://doi.org/10.7759/s44389-025-03135-0">https://doi.org/10.7759/s44389-025-03135-0</a>
25	T. Alam, M. Rokonuzzaman, S. Sarker, A F M Z. Abadin, T. Debnath, <b>M. I. Hossain</b> , “Internet of Things-based Home Automation with Network Mapper and MQTT Protocol”, <i>Computers and Electrical Engineering</i> , Volume 120, Part C, 2024, 109807, ISSN 0045-7906, <a href="https://doi.org/10.1016/j.compeleceng.2024.109807">https://doi.org/10.1016/j.compeleceng.2024.109807</a> .
24	<b>Hossain, M. I.</b> , Ahmad, S., Hasan, S., Rahim, M. A., & Shin, J. (2024). Lung cancer detection and classification using LeNet-LSTM model on computed tomography images. <i>Multidisciplinary Science Journal</i> ,
23	Md Abdur Rahim, Abu Saleh Musa Miah, Hemel Sharker Akash, Jungpil Shin, <b>M. I. Hossain</b> and Md. Najmul Hossain, “An Advanced Deep Learning Based Three-Stream Hybrid Model for Dynamic Hand Gesture Recognition”, arXiv preprint arXiv:2408.08035, 15 Aug 2024. <a href="https://doi.org/10.48550/arXiv.2408.08035">https://doi.org/10.48550/arXiv.2408.08035</a> .
22	<b>Md. Imran Hossain</b> , Md. Mojahidul Islam, Tania Nahrin, Md. Rashed, Md. Atiqur Rahman, “Improving Speech Emotion Recognition and Classification Accuracy Using Hybrid CNN-LSTM-KNN Model”, <i>International Journal of Research Publication and Reviews</i> , Vol 5, no 8, pp 4164-4173 August 2024.
21	Md. Mojahidul Islam, Md. Robiul Hoque, Md. Atiqur Rahman, <b>M. I. Hossain</b> , “OBSTACLE SEGMENTATION AND WARNING SYSTEM FOR VISUALLY IMPAIRED PEOPLE”, <i>International Journal of Advance Research and Innovative Ideas InEducation</i> , ISSN(O)-2395-4396, Vol-10 Issue-3 2024.
20	Md. Shariful Islam, Md Abdur Rahim, Nitun Kumar Podder, Md. Najmul Hossain, and <b>Md Imran Hossain</b> , “Prediction of Irregular Bangladesh-EU Migration Trends Using Machine Learning Techniques”, 2024 3rd International Conference on Advancement in Electrical and Electronic Engineering (ICAEEE 2024), 25-27 April, 2024, Gazipur, Bangladesh, IEEE Xplore, DOI: 10.1109/ICAEEE62219.2024.10561697
19	Md. Bipul Hossen, Zhongfu Ye, Amr Abdussalam, <b>M. I. Hossain</b> , “GVA: guided visual attention approach for automatic image caption generation,” <i>Multimedia Systems</i> 30(1), January 2024, DOI: 10.1007/s00530-023-01249-w ( <b>Springer, SCI, IF: 3.91</b> )
18	<b>M. I. Hossain</b> , Md Abdur Rahim and Md Najmul Hossain, “Single-channel Speech Separation Based on Double-density Dual-tree CWT and SNMF,” <i>Annals of Emerging Technologies in Computing (AETiC)</i> , Vol. 8, No. 1, 2024, <a href="http://aetic.theiaer.org/archive/v8/v8n1/p1.html">http://aetic.theiaer.org/archive/v8/v8n1/p1.html</a>
17	Md. Najmul Hossain, Al Amin Islam, Md. Abdur Rahim, <b>Md. Imran Hossain</b> , and Arifour Rahman, “Design and Performance Analysis of Defected Ground Slotted Patch Antenna for Sub-6 GHz 5G Applications,” <i>Journal of Engineering Advancements</i> , Vol. 04(04) 2023, pp 130-140, <a href="https://doi.org/10.38032/jea.2023.04.004">https://doi.org/10.38032/jea.2023.04.004</a> .
16	Ye ZhongFu, <b>M. I. Hossain</b> , 一种在双变换域上的单通道语音分离方法 (A single-channel speech separation method on a double transformation domain), China National

	University of Science and Technology of China, Intellectual Property Office, Patent no. ZL 2020 1 04922043.1, Certificate no. 5489111, 2022.
15	Khan, R.; Islam, M.S.; Kanwal, K.; Iqbal, M.; <b>Hossain, M.I.</b> ; Ye, Z. A Deep Neural Framework for Image Caption Generation Using GRU-Based Attention Mechanism. arXiv 2022, arXiv:2203.01594. <a href="https://doi.org/10.48550/arXiv.2203.01594">https://doi.org/10.48550/arXiv.2203.01594</a>
14	<b>M. I. Hossain</b> , T. H. A. Mahmud, M. S. Islam, M. B. Hossen, R. Khan and Z. Ye, “Dual transform based joint learning single channel speech separation using generative joint dictionary learning,” <i>Multimedia tools and applications</i> , 2022. <a href="https://doi.org/10.1007/s11042-022-12816-0">https://doi.org/10.1007/s11042-022-12816-0</a> . ( <b>Springer, SCI, IF: 3.6</b> )
13	R. khan, M. S. Islam, K. Kanwal, M. Iqbal, <b>M. I. Hossain</b> and Z. Ye, “Attention-Based Sequence-to-Sequence Framework for Auto Image Caption Generation,” <i>Journal of Intelligent &amp; Fuzzy Systems</i> , vol. 43, no. 1, pp. 159-170, 2022. ( <b>SCI, IF: 2</b> )
12	<b>M. I. Hossain</b> , M. S. Islam, M. T. Khatun, R. Ullah, and A. Masood and Z. Ye, “Dual Transform Source Separation Using Sparse Non-Negative Matrix Factorization,” <i>Circuits, Systems, and Signal Processing</i> , 40, 1868–1891, 2021. ( <b>Springer, SCI, IF: 2.3</b> )
11	M. S. Islam, N. Naqvi, A. T. Abbasi, <b>M. I. Hossain</b> , R. Ullah, R. Khan, M. Sh. Islam and Z. Ye, “Robust Dual Domain Twofold Encrypted Image-in-Audio Watermarking Based on SVD,” <i>Circuits, Systems, and Signal Processing</i> , 2021. ( <b>Springer, SCI, IF: 2.3</b> ).
10	M. S. Islam, Y. Zhu, <b>M. I. Hossain</b> , R. Ullah, Z. Ye, “Supervised single channel dual domains speech enhancement using sparse non-negative matrix factorization,” <i>Digital Signal Processing</i> , 100, 2020 102697. ( <b>SCI, IF: 2.9</b> )
9	R. Ullah, M. S. Islam, <b>M. I. Hossain</b> , F.E. Wahab, Z. Ye, “Single channel speech dereverberation and separation using RPCA and SNMF,” <i>Applied Acoustics</i> , 167, 107406, 2020. ( <b>SCI, IF: 3.4</b> )
8	M. M. Ahmed, A. F. M. Z. Abadin, M. A. Hossain and <b>M. I. Hossain</b> , “Implementation of Back Propagation Neural Network with PCA for Face Recognition,” <i>Global Journal of Computer Science and Technology: G Interdisciplinary</i> , Vol. 19 Iss. 3, Version 1.0 Year 2019.
7	M. S. Raja, <b>M. I. Hossain</b> , M. K. H. Jewel, M. S. Ali, “PAPR Reduction of OFDM Signal Using Sequential Phase Sequence SLM Based Transceiver without Side Information”, <i>International Journal of Wireless and Microwave Technologies (IJWMT)</i> , Vol. 5, No. 1, March 2015. Available: <a href="http://www.mecs-press.org/ijwmt">http://www.mecs-press.org/ijwmt</a> .
6	M. M. Ahmed, and <b>M. I. Hossain</b> , “Brain Tumour Segmentation using Level Set Method and Affected Area Calculation,” <i>Engineering International</i> , Vol.3, No. 2, 2015.
5	<b>M. I. Hossain</b> , M. K. Noman, M. M. Islam, M. Mursalin, “Specific face detection from large number of stored faces” <i>International Journal of Scientific and Engineering Research</i> , Vol. 4, Iss. 5, May 2013.
4	M. M. Islam, <b>M. I. Hossain</b> and M. K. Noman, “Bangla Character Recognition System is Developed by using Automatic Feature Extraction and XOR Operation,” <i>Global Journal of Computer Science and Technology Graphics&amp; Vision</i> , Vol. 13 Iss. 2, Version 1.0, Year 2013.
3	<b>M. I. Hossain</b> , M. K. Noman, M. M. Islam and M. R. Islam, “Performance Analysis of CDMA System using Direct Sequence Spread Spectrum and Frequency Hopping Spread Spectrum Techniques”, <i>Global Journal of Computer Science and Technology</i> :

	<i>E Network, Web &amp; Security</i> , Vol. 13 Iss. 6, Year 2013.
2	<b>M. I. Hossain</b> , M. M. Rahman, T. K. Godder, M. T. Khatun, “Improving Energy Efficient Clustering Method for Wireless Sensor Network”, <i>I.J. Information Technology and Computer Science (IJITCS)</i> , Vol. 5, No. 9, August 2013. Available: <a href="http://www.mecs-press.org/ijitcs">http://www.mecs-press.org/ijitcs</a> .
1	<b>M. I. Hossain</b> , M. M. Rahman, and T. K. Godder, “An Automatic Road Sign Recognizer for an Intelligent Transport System”, <i>International Journal of Advanced Research in Computer Science</i> , Vol. 3, No. 5, Sept-Oct 2012.

### Conferences Publications

10	Shammo L. Islam, Mehedi, M. A. Hossain, <b>M. I. Hossain</b> , Mohona, M. A. Miya, M. Haque, “Machine Learning-Based Hepatitis C Detection Using Ensemble Boosting”, 3rd International Conference on Big Data, IoT and Machine Learning (BIM 2025), September 25-27, 2025, Dhaka International University, Bangladesh. (Accepted).
9	M. Rashed, <b>M. I. Hossain</b> , M. Z. Islam, F. Naznin, “An Intelligent Video Surveillance System with Temporal-Enhanced YOLOv8 for Real-Time Fire, Accident, and License Plate Detection in Public Safety Monitoring”, 2025 IEEE International Conference on Future Machine Learning and Data Science, Los Angels, USA, (Accepted).
8	M. Rashed, M. B. Z. Shammo, <b>M. I. Hossain</b> , M. A. Hossain, L. Islam and J. Habib, “A Machine Learning Framework for Stress Detection Using Photoplethysmography (PPG) Signals,” 2025 International Conference on Quantum Photonics, Artificial Intelligence, and Networking (QPAIN) 31 July – 2 August 2025, Rangpur, Bangladesh.
7	M. H. Islam, M. Rashed, N. K. Podder, <b>M. I. Hossain</b> , A. K. Mondol, “Enhancing COPD Detection with WaveNet: Assessing the Efficacy of Deep Learning Model”, 2025 International Conference on Quantum Photonics, Artificial Intelligence, and Networking (QPAIN) 31 July – 2 August 2025, Rangpur, Bangladesh.
6	M. A. I. Himel, M. B. Hossain, M. A. Rahim, S. Mahmood, A. S. M. Miah and <b>M. I. Hossain</b> , “Hybrid Model-based Bangla Sign Language Recognition Using Machine Learning and Deep Transfer Learning Techniques”, <i>Undergraduate Conference on Intelligent Computing and Systems (UCICS 2025)</i> , 26-27 February, 2025, Varendra University, Rajshahi, Bangladesh.
5	Md. Tahidul Islam, Md. Abdur Rahim, Abu Saleh Musa Miah, <b>M. I. Hossain</b> , and Md. Shafiul Azam “Breast Cancer Detection via Advanced Deep Learning Networks”, <i>Undergraduate Conference on Intelligent Computing and Systems (UCICS 2025)</i> , 26-27 February, 2025, Varendra University, Rajshahi, Bangladesh.
4	Mitu Rani Kundu, <b>M. I. Hossain</b> , Md. Rashed, Md. Abdur Rahim, and Sumayta Shama, “Continuous Cuffless Blood Pressure Monitoring with Deep-Learning Techniques Utilizing PPG and ECG Features,” <i>Undergraduate Conference on Intelligent Computing and Systems (UCICS 2025)</i> , 26-27 February, 2025, Varendra University, Rajshahi, Bangladesh.
3	MD. Rakibul Hossain, <b>M. I. Hossain</b> , Sumayta Shama, Md. Rashed, and Akif Mahdi, “RA-UNet: A Deep Learning Approach for Precise Colorectal Polyp Segmentation,” <i>Undergraduate Conference on Intelligent Computing and Systems (UCICS 2025)</i> , 26-27 February, 2025, Varendra University, Rajshahi, Bangladesh.
2	M. Rashed, <b>M. I. Hossain</b> and M. A. Hossain, "Enhanced Prediction of Type-2 Diabetes Mellitus Using an Integrated Ensemble Framework (IEF)," <i>2024 27th International Conference on Computer and Information Technology (ICCIT)</i> , Cox's Bazar, Bangladesh, 2024, pp. 2512-2517, doi: 10.1109/ICCIT64611.2024.11022451.

1	Md. Shariful Islam, Md Abdur Rahim, Nitun Kumar Podder, Md. Najmul Hossain, and <b>M. I. Hossain</b> , “Prediction of Irregular Bangladesh-EU Migration Trends Using Machine Learning Techniques”, 2024 3rd International Conference on Advancement in Electrical and Electronic Engineering (ICAEEE 2024), 25-27 April, 2024, Gazipur, Bangladesh, IEEE Xplore, DOI: 10.1109/ICAEEE62219.2024.10561697
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## **Personal Information**

**Full Name** : Dr. Md. Imran Hossain  
**Father's Name** : Md. Abdur Rab  
**Mother's Name** : Most. Anisa Durbisha  
**Date of Birth** : 9th November, 1987  
**National ID No** : 9129853157  
**Nationality** : Bangladeshi (By birth)  
**Religion** : Islam (Sunni)  
**Marital status** : Married  
**Sex** : Male  
**Blood Group** : “B” Positive  
**Present Address** : Associate professor, Department of Information and Communication Engineering, Pabna University of Science and Technology, Pabna-6600, Bangladesh.  
**Permanent Address**: Village: Dhakula, Post: Ellarchar, PS: Satkhira, Dist: Satkhira, Bangladesh.

## **References**

**Dr. Md. Mahbubur Rahman (M.Sc. Supervisor)**  
 Professor  
 Dept. of Information & Communication Technology,  
 Islamic University, Kushtia  
 Cell: +8801711007191  
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**Dr. Dr. Md. Zahidul Islam**  
 Professor  
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**Dr. ZhongFu Ye (PhD Supervisor)**  
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I hereby declare that the information furnished above is true to the best of my knowledge.

**Signature: (Dr. Md. Imran Hossain)**

