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🏠 Associate Research Scientist, Center for Cerebro-cardiovascular Health Engineering (COCHE) under The City University of Hong Kong, Rm 1115-1119, Building 19W, Hong Kong Science Park, Hong Kong. <https://www.hkcoche.org/>

DoB November 10, 1981



Employment History

- 2023 – 📌 **Associate Research Scientist.** Hong Kong Centre for Cerebro-cardiovascular Health Engineering (COCHE), City University of Hong Kong, Rm 1115-1119, Building 19W, Hong Kong Science Park.
- 2023 📌 **Professor.** Department of Computer Science and Engineering, Islamic University, Kushtia-7003, Bangladesh.
- 2020 – 2023 📌 **Associate Professor.** Department of Computer Science and Engineering, Islamic University, Kushtia-7003, Bangladesh.
- 2016 – 2020 📌 **Doctoral Fellow.** Department of Electronic Engineering and Information Science, University of Science and Technology of China, 443 Huangshan Rd, Hefei, Anhui, PR China.
- 2013 – 2016 📌 **Assistant Professor.** Department of Computer Science and Engineering, Islamic University, Kushtia-7003, Bangladesh.
- 2010 – 2013 📌 **Lecturer.** Department of Computer Science and Engineering, Islamic University, Kushtia-7003, Bangladesh.
- 2008 – 2010 📌 **Assistant Programmer.** Bangladesh Computer Council Dhaka, Bangladesh.

Education

- 20016 – 2020 📌 **Doctor of Engineering, Department of Electronic Engineering and Information Science, University of Science and Technology of China** in Information and Communication Engineering (Signal and Information Processing).
Supervisor: *Professor Dr. ZhongFu Ye, Department of Electronic Engineering and Information Science, University of Science and Technology of China.*
Thesis title: *Robust Supervised Single Channel Speech Enhancement in the Wavelet Domain.*
- 2004 – 2005 📌 **M.Sc. Computer Science and Engineering at Islamic University, Bangladesh** in Speech Signal Processing.
Thesis title: *Performance Evaluation of Mel-LP and LP-Mel Based Noisy Speech Recognition Using HMM.*
- 2000 – 2004 📌 **B.Sc. Computer Science and Engineering, Islamic University, Bangladesh.**
- 1997 – 1999 📌 **H.S.C. Science, Shah Neamatullah College, Bangladesh** in Rajshahi Board.
- 1987 – 1997 📌 **S.S.C. Science, Shahabajpur U.C. High School, Bangladesh** in Rajshahi Board.

Research Interest

- 📌 Speech Controlled ChatGPT for Cardiovascular Health Engineering
- 📌 Non-invasive Continuous Blood Pressure Estimation(PPG, ABP, Pulse, ECG & SCG)

Research Interest (continued)

- 📌 Speech Enhancement
- 📌 Speech Denoising
- 📌 Speech Separation
- 📌 Physiological Signals Processing (EMG, MMG, ECG, EEG & EOG)
- 📌 Audio Watermarking
- 📌 Image Processing
- 📌 Video Image Processing
- 📌 Medical Image Processing

Skills

- Languages 📌 Strong reading, writing and speaking competencies for English, Mandarin Chinese, Bengali.
- Coding 📌 MATLAB, Python, Java, PHP, R, SQL, XML/XSL, \LaTeX , ...
- Databases 📌 MySQL, PostgreSQL, HSQL, SQLite, LotusNotes.
- Web Dev 📌 HTML, CSS, JavaScript, Apache Web Server, Tomcat Web Server.
- Misc. 📌 Academic research, teaching, training, consultation, \LaTeX typesetting & publishing.

Taught Courses

- 📌 Digital Signal and Image Processing
- 📌 Communication Engineering
- 📌 Computer Architecture and Organization
- 📌 Spectral Analysis
- 📌 Data Structure and Computer Algorithms
- 📌 Computer Programming
- 📌 PPG & Pulse Signal Analysis

Research Publications

Published Journal Articles

- 1 Ali, M. S., **Islam, M. S.**, Chan, R. H.-F., Chan, K. W. Y., & Ho, D. (April 03, 2024). A novel hybrid deep learning approach for cuff-less noninvasive continuous blood pressure estimation based on photoplethysmography, Accepted. *The 3rd IEEE International Conference on Micro/Nano Sensors for AI, Healthcare, and Robotics IEEE-NSENS 2024*, The first and second authors contributed equally to this work.
- 2 Basir, S., Hossain, M., Hosen, M., Riaz, Z., & **Islam, M. S.** (May 28, 2024). Enhanced speech separation through a supervised approach using bidirectional long short-term memory in dual domains. *Computers and Electrical Engineering*.
- 3 Riaz, Z., **Islam, M. S.**, Basir, S., Chan, K. W. Y., & Yu, X. (April 03, 2024). Cuffless continuous bp monitoring from photoplethysmography signals using UNET and attention mechanism, Accepted. *The 3rd IEEE International Conference on Micro/Nano Sensors for AI, Healthcare, and Robotics IEEE-NSENS 2024*, The first and second authors contributed equally to this work.
- 4 Basir, S., Hossain, M., Hosen, M., Ali, M. S., Riaz, Z., & **Islam, M. S.** (2024). U-NET: A supervised approach for monaural source separation. *Arabian Journal for Science and Engineering*.
[doi:10.1007/s13369-024-08785-1](https://doi.org/10.1007/s13369-024-08785-1)

- 5 Islam, M. M., Ambia, A.-U., Asaduzzaman, A., **Islam, M. S.**, & Rahman, M. A. (2024). Object defect detection using histogram analysis and spearman's correlation coefficient. *International Journal of Research and Scientific Innovation*, *XI(IV)*, 137–142. [doi:10.51244/IJRSI.2024.1104010](https://doi.org/10.51244/IJRSI.2024.1104010)
- 6 Hossain, M., Basir, S., Hosen, M., Asaduzzaman, A., Islam, M., Hossain, M., & **Islam, M. S.** (2023). Supervised single channel speech enhancement method using UNET. *Electronics*, *12*, 3052. [doi:10.3390/electronics12143052](https://doi.org/10.3390/electronics12143052)
- 7 Riaz, Z., Khan, B., Abdullah, S., Khan, S. K., & **Islam, M. S.** (2023). Lung tumor image segmentation from computer tomography images using mo-bilenetv2 and transfer learning. *Bioengineering*, *10*, 981. [doi:10.3390/bioengineering10080981](https://doi.org/10.3390/bioengineering10080981)
- 8 Abdullah, M. I., Rahman, M. A., Hossain, M. A., & **Islam, M. S. and Hossain, M. S. Hossain.** (2022). To identify the untrustworthy leader of a hierarchical wireless sensor network using received signal strength. *International Journal of Scientific Research in Computer Science and Engineering*, *10*, 30–39. [doi:10.3390/bioengineering10080981](https://doi.org/10.3390/bioengineering10080981)
- 9 Hossain, M. I., Al Mahmud, T. H., **Islam, M. S.**, Hossen, M. B., Khan, R., & Ye, Z. (2022). Dual transform based joint learning single channel speech separation using generative joint dictionary learning. *Multimedia Tools and Applications*, *81*, 29321–29346. [doi:https://doi.org/10.1007/s11042-022-12816-0](https://doi.org/10.1007/s11042-022-12816-0)
- 10 Ali, M. S., **Islam, M. S.**, Memon, M. H., Asif, M., & Lin, F. (2021). Optimum DCT type-I based transceiver model and effective channel estimation for uplink NB-IoT system. *Physical Communication*, *48*, 101431. [doi:10.1016/j.phycom.2021.101431](https://doi.org/10.1016/j.phycom.2021.101431)
- 11 **Islam, M. S.**, Naqvi, N., Abbasi, A. T., Hossain, M. I., Ullah, R., Khan, R., ... Ye, Z. (2021). Robust dual domain twofold encrypted image-in-audio watermarking based on SVD. *Circuits Syst Signal Process*, *40*, 4651–4685. [doi:10.1007/s00034-021-01690-0](https://doi.org/10.1007/s00034-021-01690-0)
- 12 Hossain, M. S., Abdullah, M. I., Ahamad, M. M., Hossain, M. A., & **Islam, M. S.** (2020). A robust clustering technique of WSN based on weighted parameters. *Journal of Mechanics of Continua and Mathematical Sciences*, *15*, 263–274. [doi:https://doi.org/10.26782/jmcms.2020.01.00020](https://doi.org/10.26782/jmcms.2020.01.00020)
- 13 Hossain, M. I., **Islam, M. S.**, Khatun, M. T., Ullah, R., Masood, A., & Ye, Z. (2020). Dual-transform source separation using sparse nonnegative matrix factorization. *Circuits Syst Signal Process*, *40*, 1868–1891. [doi:10.1007/s00034-020-01564-x](https://doi.org/10.1007/s00034-020-01564-x)
- 14 **Islam, M. S.**, Mahmud, T. H. A., Khan, W. U., & Ye, Z. (2020). 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*, *90*, 445–458. [doi:10.1007/s11265-019-01480-7](https://doi.org/10.1007/s11265-019-01480-7)
- 15 **Islam, M. S.**, Zhu, Y., Hossain, M. I., Ullah, R., & Ye, Z. (2020). Supervised single channel dual domains speech enhancement using sparse non-negative matrix factorization. *Digital Signal Processing*, *100*, 102697. [doi:10.1016/j.dsp.2020.102697](https://doi.org/10.1016/j.dsp.2020.102697)
- 16 Rahman, M. H., Sarkar, B., **Islam, M. S.**, & Abdullah, M. I. (2020). Discovering biomarkers and pathways shared by alzheimer's disease and parkinson's disease to identify novel therapeutic targets. *International Journal of Engineering Research Technology (IJERT)*, *09*. [doi:10.17577/IJERTV9IS060300](https://doi.org/10.17577/IJERTV9IS060300)
- 17 Ullah, R., **Islam, M. S.**, Hossain, M. I., Wahab, W., Fazal, & Ye, Z. (2020). Single channel speech dereverberation and separation using RPCA and SNMF. *Applied Acoustics*, *167*, 107406. [doi:10.1016/j.apacoust.2020.107406](https://doi.org/10.1016/j.apacoust.2020.107406)
- 18 Ullah, R., **Islam, M. S.**, Ye, Z., & Asif, M. (2020). Semi-supervised transient noise suppression using OMLSA and SNMF algorithms. *Applied Acoustics*, *170*, 107533. [doi:10.1016/j.apacoust.2020.107533](https://doi.org/10.1016/j.apacoust.2020.107533)
- 19 **Islam, M. S.**, Mahmud, T. H. A., Khan, W. U., & Ye, Z. (2019). 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*, 8, 353.

doi:10.3390/electronics8030353

- 20 Mahmud, T. H. A., Ye, Z., Kashif, S., Rui, Z., & **Islam, M. S.** (2018). Off-grid DOA estimation aiding virtual extension of coprime arrays exploiting fourth order difference co-array with interpolation, *Journal of Mechanics of Continua and Mathematical Sciences*, 6, 46097–46109.
doi:https://doi.org/10.1109/ACCESS.2018.2865419
- 21 Uddin, M. J., Rahim, S., Mohit, M. A. A., & **Islam, M. S.** (2013). Comparative study between mfcc and lp-mel based front-ends for noisy speech recognition using hmm, *International Journal Of Engineering And Computer Science*, 2, 821.
- 22 Islam, M. M., Aktaruzzamn, M., Khan, M. F., & **Islam, M. S.** (2011). Handwritten character segmentation system for bangla text containing modifier and overlapped characters, *Journal of Asian Transactions on Computers*, 1, 15–19.

In Progress Manuscripts

- 1 Abbasi, M. A., **Islam, M. S.**, & Fuyou, M. (2024). *A secure and robust audio watermarking scheme using secret sharing in the transform domain*, Under Review, *Circuits, Systems, and Signal Processing*.
- 2 Hosen, S., Basir, S., Khan, M. F., Asaduzzaman, A., Islam, M. M., & **Islam, M. S.** (2024). *Supervised single channel dual domains speech enhancement technique using bidirectional long short-term memory*, Under Review, *Multimedia Tools and Applications*.
- 3 **Islam, M. S.**, Ali, M., Khan, W., Chan, K., Chan, R., & Ho, D. (2024). *On efficient estimation of continuous noninvasive blood pressure using low-complexity lrcn deep learnings framework based on the ppg signal*, Under Review, *IEEE Journal of Biomedical and Health Informatics*.

References

1. Dr. ZhongFu Ye (PhD Supervisor)

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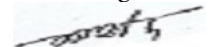
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