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PROFESSIONAL AND TEACHING EXPERIENCE

2020 – · · · · **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 INTERESTS

My research is based on conventional methods for analysis purposes. I am currently interested to do research using Machine learning (ML) and Deep learning methods for analysis and processing. My research is specifically focused on

- Speech Enhancement
- Speech Denoising
- Speech Separation
- Natural Language Processing
- Video Image Processing
- Speech Dereverberation
- Image Processing
- Audio Watermarking

TECHNICAL SKILLS

Deep Learning Framework	Caffe, Pytorch, TensorFlow, Keras.
Programming languages	MATLAB, Python, Java, PHP, R, SQL, XML/XSL, LaTeX, …
Misc.	Linux, Mac OS, Windows OS, Academic research, teaching, training, consultation, LaTeX typesetting and publishing.

TEACHING COURSES

- Digital Signal and Image Processing (both theoretical and practical)
- Algorithms design (both theoretical and practical)
- Computer Architecture and Organization (both theoretical and practical)
- Spectral Analysis (both theoretical and practical)
- Data Structure and Computer Algorithms (both theoretical and practical)
- Computer Programming (both theoretical and practical)

RESEARCH FUNDING AND GRANTS

- Supervised Single Channel Speech Enhancement Based on Stationary Wavelet Transforms and Non-negative Matrix Factorization with Concatenated Framing Process and Subband Smooth Ratio Mask funded by National Natural Science Foundation of China (No. 61671418) and the Advanced Research Fund of University of Science and Technology of China.

RESEARCH FUNDING AND GRANTS (continued)

- 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 funded by the National Natural Science Foundation of China (No. 61671418) and the Advanced Research Fund of the University of Science and Technology of China.
- Supervised single channel dual domains speech enhancement using sparse non-negative matrix factorization funded by the National Natural Science Foundation of China (No.61671418) and the Advanced Research Fund of the University of Science and Technology of China.
- Single channel speech dereverberation and separation using RPCA and SNMF funded by the National Natural Science Foundation (no. 61671418) and the CAS-TWAS president fellowship.

PATENT

Ye ZhongFu, **M. S. Islam**, 一种基于联合字典学习和稀疏表示的单通道语音增强方法 (A Single-Channel Speech Enhancement Method Based on Joint Dictionary Learning and Sparse Representation), China National University of Science and Technology of China, Intellectual Property Office, Patent no. ZL 2020 1 0454159.6, Certificate no. 5149272.

JOURNAL PUBLICATIONS

Published Journal Articles

1. Hossain, M. I., Mahmud, T. H. A., **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, *Multimed Tools Appl*, *6*, 46097–46109. doi:https://doi.org/10.1007/s11042-022-12816-0
2. 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
3. **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
4. 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
5. 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

6. **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

7. **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

8. 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

9. 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

10. **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

11. 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, *IEEE Access*, *6*, 46097–46109. doi:https://doi.org/10.1109/ACCESS.2018.2865419

In Progress Manuscripts

1. Hossain, M. I., **Islam, M. S.**, Khatun, M. T., Ullah, R., Khan, R., & Ye, Z. (n.d.). *Supervised single-channel speech separation learning magnitude, real, and imaginary parts of the signal through sparse nonnegative matrix factorization (SNMF) (Under Review)*.

2. **Islam, M. S.**, Ullah, R., Hossain, M. I., Abbasi, A. T., & Ye, Z. (n.d.[a]). *Dual domains speech enhancement method using UNET*.

3. **Islam, M. S.**, Ullah, R., Hossain, M. I., Abbasi, A. T., & Ye, Z. (n.d.[b]). *Dual domains speech separation method using CNN*.

4. **Islam, M. S.**, Ullah, R., Hossain, M. I., Abbasi, A. T., & Ye, Z. (n.d.[c]). *Supervised single-channel dual transforms speech enhancement learning magnitude, real, and imaginary parts of the signal through generative joint dictionary learning (GJDL)*.

5. Naqvi, N., **Islam, M. S.**, Hossain, M. I., Abbasi, A. T., Ullah, R., Islam, M. S., & Ye, Z. (n.d.). *Robust twofold image-in-audio watermarking scheme using DTCWT-DCT-SVD (Under Review)*.

REFERENCES

1. Dr. ZhongFu Ye (PhD Supervisor)
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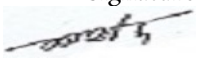

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