Ahmed Tahseen Minhaz

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Department of Biomedical Engineering
Case Western Reserve University
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Education

Case Western Reserve University Expected 2023
PhD, Biomedical Engineering

Bangladesh University of Engineering and Technology
M.Sc., Electrical and Electronic Engineering, GPA: 3.67/4.00 2018
B.Sc., Electrical and Electronic Engineering, GPA: 3.63/4.00 2016

Research Experience

Biomedical Imaging Laboratory
Graduate Research Assistant; Advisor: Dr. David L. Wilson

- Developing image registration, enhancement, segmentation and biometric measurement approaches in 3D ultrasound biomicroscopy (3D-UBM) using conventional and machine and deep learning based approaches for anterior segment imaging of the eye.

Semion Inc.
Computer Vision Researcher; Advisor: Dr. Khalid Ashraf Nov 2016- Feb 2018

- Developed a software tool for deep learning based organ segmentation, abnormality detection and localization approach in chest x-rays.

EUProW Lab, Bangladesh University of Engineering and Technology
Undergraduate Research Assistant; Advisor: Dr. Celia Shahnaz Summer 2015- July 2018

- Developed apnea detection approach from EEG signal features in patients with sleep apnea syndrome. (B.Sc. project)
- Developed a generative adversarial network based speech enhancement approach using wavelet features. (M.Sc. dissertation)

Teaching Experience

Teaching Assistant

- UNIV 400: Future Faculty Certificate
- EBME 602: Special Projects.

Professional Associations

- Student Member, SPIE
- Student member, IEEE

Conference and Poster Presentations

[1] A. T. Minhaz, M. Bayat, F. Orge, and D. L. Wilson, "Deconvolution and improved visualization of ocular structures in UBM using deep learning," in *2020 IEEE International Ultrasonics Symposium (IUS)*, Sep. 2020, pp. 1–3, doi: 10.1109/IUS46767.2020.9251648.

[2] A. T. Minhaz *et al.*, "Deconvolution of ultrasound biomicroscopy images using generative adversarial networks to visualize and evaluate localization of ocular structures," presented at the SPIE Medical Imaging, San Diego, CA, USA, Feb. 2021.

[3] A. T. Minhaz *et al.*, "Comparison of manual and automated 3D measurements of ciliary body in three dimensional ultrasound biomicroscopy (3D-UBM) images.," *Invest. Ophthalmol. Vis. Sci.*, vol. 61, no. 9, pp. PB0051–PB0051, Jul. 2020.

[4] A. T. Minhaz *et al.*, "3D ultrasound biomicroscopy (3D-UBM) imaging of the eye for unique 3D assessment of ciliary body," in *Medical Imaging 2020: Ultrasonic Imaging and Tomography*, Houston, United States, Mar. 2020, p. 27, doi: 10.1117/12.2549846.

[5] A. T. Minhaz, M. Bayat, F. H. Orge, and D. L. Wilson, "Deconvolution and Improved Visualization of Ocular Structures in UBM Using Deep Learning," presented at the IEEE International Ultrasonic Symposium, Las Vegas, Sep. 2020.

[6] Ahmed Tahseen Minhaz *et al.*, "3D ultrasound biomicroscopy (3D-UBM) imaging of the eye for unique 3D assessment of ciliary body," Mar. 2020, vol. 11319, doi: 10.1117/12.2549846.

[7] C. Shahnaz and A. T. Minhaz, "Sleep Apnea frame detection based on Empirical Mode Decomposition of delta wave extracted from wavelet of EEG signals," in *2016 IEEE International WIE Conference on Electrical and Computer Engineering (WIECON-ECE)*, Dec. 2016, pp. 233–236, doi: 10.1109/WIECON-ECE.2016.8009125.

[8] C. Shahnaz, A. T. Minhaz, and S. T. Ahamed, "Sub-frame based apnea detection exploiting delta band power ratio extracted from EEG signals," in *2016 IEEE Region 10 Conference (TENCON)*, Nov. 2016, pp. 190–193, doi: 10.1109/TENCON.2016.7847987.

[9] Hao Wu *et al.*, "3D ultrasound biomicroscopy (3D-UBM) imaging and automated 3D assessment of the iridocorneal angle for glaucoma patients," Mar. 2019, vol. 10955, doi: 10.1117/12.2513072.

[10] M. T. Islam, M. N. Shaan, E. J. Easha, A. T. Minhaz, C. Shahnaz, and S. A. Fattah, "Enhancement of noisy speech based on decision-directed Wiener approach in perceptual wavelet packet domain," in *TENCON 2017 - 2017 IEEE Region 10 Conference*, Nov. 2017, pp. 2666–2671, doi: 10.1109/TENCON.2017.8228313.

[11] S. Noor, E. A. Dhrubo, A. T. Minhaz, C. Shahnaz, and S. A. Fattah, "Audio Visual Emotion Recognition Using Cross Correlation and Wavelet Packet Domain Features," in *2017 IEEE International WIE Conference on Electrical and Computer Engineering (WIECON-ECE)*, Dec. 2017, pp. 233–236, doi: 10.1109/WIECON-ECE.2017.8468871.

[12] H. Wu *et al.*, "3D ultrasound biomicroscopy (3D-UBM) imaging and automated 3D assessment of the iridocorneal angle for glaucoma patients," in *Medical Imaging 2019: Ultrasonic Imaging and Tomography*, Mar. 2019, vol. 10955, p. 109550U, doi: 10.1117/12.2513072.

Journals

M. T. Islam, M. A. Aowal, A. T. Minhaz, and K. Ashraf, “Abnormality Detection and Localization in Chest X-Rays using Deep Convolutional Neural Networks,” 2017, [Online]. Available: http://arXiv.org/abs/.

References

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