Ahmed Tahseen Minhaz

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Education

M.Sc., Electrical and Electronic Engineering — April 2016- Present
Bangladesh University of Engineering and Technology(BUET)

B.Sc., Electrical and Electronic Engineering — 2011- March 2016
Bangladesh University of Engineering and Technology(BUET)
CGPA: 3.63 out of 4

Work Experience

Computer Vision Researcher, Semion Inc. — November 2016-

Projects

Abnormality detection in chest x-ray images using deep convolutional neural network

- Implemented modern CNN architectures such as Alexnet,VGG-16 and ResNet to detect different heart diseases in chest x-rays.

Localization of disease in Chest X-Ray images

- Using patch removal based approach and class activation mapping to localize which part of the image is responsible for disease classification.

Lung and heart segmentation in Chest X-Ray images

- Using multipath refinement and Faster R-CNN for high-resolution lung and heart segmentation in chest x-ray images

Non-rigid Image Registration and Lung-Heart Segmentation in Chest X-rays using SIFTFlow algorithm

- Reproduced an automatic heart and lung segmentation system from chest x-ray images using SIFTFlow based Non-rigid Image Registration.

Undergraduate Research

EUProW Lab, BUET — February 2015-March 2016

Sleep Apnea Detection from EEG Signal, under supervision of Prof. Celia Shahnaz

- Proposed an apnea frame detection using Band Power Ratios of EEG Signal
- Developed an alternative apnea detection method using Empirical Mode Decomposition of EEG Delta Wave

Journals

1. "Abnormality Detection and Localization in Chest X-Rays using Deep Convolutional Neural Networks" M. T. Islam, M. A. Haque, **A. T. Minhaz**, K. Ashraf. (arXiv)
2. "Apnea Frame Detection by Statistical Modeling of EEG Signal Features" A. Bhattacharjee, S. Saha, **A. T. Minhaz**, S. T. Ahamed, C. Shahnaz, S. A. Fattah; *in preparation.*

Proceedings

1. "Sub-Frame based Apnea Detection Exploiting Delta Band Power Ratio Extracted From EEG Signals" C. Shahnaz, **A. T. Minhaz**, S. T. Ahamed; IEEE TENCON 2016, Singapore. (link)
2. "Apnea Frame Detection by Empirical Mode Decomposition of Wavelet based Reconstructed Delta Wave of EEG Signals" **A. T. Minhaz**, C. Shahnaz; IEEE WIECON-ECE 2016, India.

Skills

Programming Languages: Python, MATLAB, C, C++

Libraries: MatConvNet, TensorFlow, Keras, Scikit-learn, NumPy, SciPy

Standardized Tests Scores

GRE: **332 out of 340** (Q-170, V-162, AWA-4)
TOEFL: **109** out of 120 (R-30, L-29, S-26, W-24)

Honors and Awards

1. Dean's List Award, BUET (2012-2013)
2. Bangladesh Government Scholarship for Excellence in Higher Secondary, Secondary and Junior Board Examination

Referees

Celia Shahnaz, Ph.D.(Concordia University)
Professor, Department of EEE
Bangladesh University of Engineering and Technology(BUET)
celiashahnaz@gmail.com,celia@eee.buet.ac.bd

Khalid Ashraf, Ph.D.(University of California, Berkeley)
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