

MD ABUL HAYAT

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EDUCATION

University of Arkansas, Fayetteville, AR

Expected: August 2022

PhD student of Electrical Engineering

CGPA: 3.89 (Fall 2018)

Relevant Courses: Information Theory, Machine Learning, Time Series Analysis, Statistical Inference, Computational Statistics.

Bangladesh University of Engineering & Technology (BUET)

September 2015

Bachelor of Science in Electrical & Electronic Engineering

Relevant Courses: Microwave Engineering, Wireless Communication, Digital Signal Processing I & II, Power System I.

TECHNICAL SKILLS

Programming Languages:

Frameworks:

Engineering Softwares:

Office Applications:

MATLAB, R, Python, C++, HTML, AMPL

NumPy, SciPy, Pandas, scikit-learn, TensorFlow, Jupyter

FEKO, PowerWorld, PSPICE, \LaTeX

Microsoft Excel, PowerPoint, Word

WORK EXPERIENCE

University of Arkansas, Fayetteville, AR

August 2017 - Present

Graduate Research Assistant, Electrical Engineering

- Analysis of Peripheral Venous Pressure waveform under different clinical conditions using Statistical Learning techniques for detection, classification and estimation.
- Applied dimension reduction techniques like PCA, Kernel-PCA; regression techniques like GLM, LASSO, Ridge and classification algorithms like k-means, KNN, DBSCAN, OPTICS, SVM in MATLAB.
- Markov Chain Monte Carlo (MCMC) based image segmentation of paddy field images to predict rice production.
- Created a Gaussian Mixture Model (GMM) based multivariate MCMC routine in MATLAB for unsupervised learning.
- Used Hidden Markov Model and OPTICS for bad data detection of time series.

Grameenphone, Dhaka, Bangladesh

October 2015 - August 2017

System Engineer, Regional Operations Department

- Grameenphone, part of the Norwegian Telenor Group, is the largest telecommunications operator in Bangladesh.
- Worked with more than 400 BTS/nodeBs of Huawei. Planned and implemented diversity techniques. Analyzed possible issues of MPD degradation and TCH congestion.
- Implemented different radio aggregation techniques on wireless backhaul devices like NEC iPasolink, Huawei Optix RTN900. Analyzed and solved performance issues like IPPM loss and Ping Packet loss.

ACCOMPLISHMENTS

- Presented poster titled 'Predicting Dehydration in Pediatric Patients with Peripheral Venous Pressure Waveform' in 15th Annual Midsouth Computational Biology & Bioinformatics Society Conference 2018 at Mississippi State University, Starkville, MS.
- Member of the runner-up team in 'Xtensa Design Contest 2015' organized by Cadence India on 'Adaptive Beamforming with Microphone Array'.
- Recipient of full tuition waiver and 'General Scholarship' from the Government of Bangladesh during undergraduate studies based on Higher Secondary Certificate examination results of 2009.

PUBLICATIONS

[J1] Patrick C Bonasso, Kevin W. Sexton, **M. A. Hayat**, Jingxian Wu, Hanna K. Jensen, Morten O. Jensen, Jeffrey M. Burford, Melvin S. Dassinger, "Venous physiology predicts dehydration in the pediatric population," Journal of Surgical Research. [Accepted : Jan 2019]

[C2] S. M. Hasan, **M. A. Hayat** and M. F. Hossain, "On the downlink SINR and outage probability of stochastic geometry based LTE cellular networks with multi-class services," 2015 18th International Conference on Computer and Information Technology (ICCIT), Dhaka, 2015, pp. 65-69.

[C1] S. M. Hasan, M. B. Monjil, F. Mohsin, **M. A. Hayat** and A. B. M. H. Rashid, "Adaptive beamforming with a Microphone Array," 2015 18th International Conference on Computer and Information Technology (ICCIT), Dhaka, 2015, pp. 178-183.