Abrar Hussain

Universiti Kebangsaan Malaysia, Bangi 43600, Selangor, Malaysia Contact: +6-01139931890

email: abrarhussainfahim@gmail.com



Self Statement

My earnest desire is to obtain research opportunities in a reputed organization where I can utilize and boost up my experiences, strong technical skills, creativity and capability to work on own initiative under supervision or as a part of a team.

Educational Background

UNIVERSITI KEBANGSAAN MALAYSIA, MALAYSIA Master of Science (by Research), 2013-2017

Major: Electrical, Electronic & Systems Engineering

CHITTAGONG UNIVERSITY OF ENGINEERING & TECHNOLOGY (CUET), CHITTAGONG, BANGLADESH.

Bachelor of Science, 2010

- Major: Electrical & Electronic Engineering (EEE)
- CGPA: 3.49/4.00 (73.80% marks and top 20% in the class)

Professional Experiences

TANARATA INTERNATIONAL SCHOOL, KAJANG MALAYSIA

Trainer, January 2018-Present Mobile Application Development Training

ClicknCare[™], SIMPLE MOTION SDN. BHD.

Executive Officer, May 2018-Present
Online healthcare services for migrant people in Malaysia

UNIVERSITI KEBANGSAAN MALAYSIA, MALAYSIA

Trainer, January 2017-December 2017

Matlab Training for undergraduate students under PKAS (Pemerkasaan Kompentensi Akademik Siswa) **Trainer**, June 2018

Mobile Application Workshop for Training of Trainer (ToT) under PKAS (Pemerkasaan Kompentensi Akademik Siswa)

SOUTHERN UNIVERSITY BANGLADESH, Mehedibag, Chittagong, Bangladesh – *Private University* **Lecturer,** October 2011-July 2013

Teaching, Conducted theoretical and laboratory classes primarily on Power System, Power Plant Engineering, Signal and Linear Systems, Digital Signal Processing, Energy Conversion, Electromagnetic Fields and Waves, Linear Algebra, Differential and Integral Calculus, Engineering Mechanics (mechanical forces and energy in physical structures, structures used in electrical and telecommunication installations).

Accomplishments:

- Incharge of Power System Laboratory, Incharge of Signal Processing Laboratory.
- Supervised several undergraduate projects.
- Contributor of Electrical and Electronic Engineering Courses Syllabus Design.

ARAMIT GROUP OF COMPANIES, Mohara, Chittagong, Bangladesh – *Heavy industry* **Assistant Engineer (Electrical),** October 2010 –September 2011

Maintenance Engineer at Cement factory. Worked both at LT (Low tension) and HT (High tension) side, in electrical control room, ball mill maintenance, crushing section maintenance, production section maintenance, 10 MW gas engine power plant schedule maintenance

Accomplishments:

- LT side electrical fault detection in the control room.
- Electrical wiring design and installation and inspection of induction motors.

Research Experiences

UNIVERSITI KEBANGSAAN MALAYSIA (UKM), BANGI, SELANGOR, MALAYSIA – *Public University*Graduate Research Assistant (GRA) in Systems Design Laboratory, September 2013-December 2017

Accomplishments under Long Term Research Grant (LRGS), Ministry of Education, Malaysia 2012-2016, Project No: LRGS/BU/2012/UKM-UKM/K/02:

Development of Spatial Audio Simulator using MATLAB: Spatial audio simulator creates binaural reproduction of sound with only two channels of headphone. This simulator can convey sound to the listeners through headphone from distinct directions so that listeners can perceive the sounds coming from various spatial positions in space. Finally, for listeners, adaptive up-down procedure is followed to adjust the speech level where speech is in the midst of background noise.

Development of Volume-to-dB level mapping for SNR level control

Development of speech enhancement algorithms with optimizing the contrast functions of PP amd ICA algorithms and it's variants.

Publications

Referred Journal Articles

- Hussain A, Chellappan K, Zamratol S. SINGLE CHANNEL SPEECH ENHACEMENT USING IDEAL BINARY MASK TECHNIQUE BASED ON COMPUTATIONAL AUDITORY SCENE ANALYSIS. Journal of Theoretical and Applied Information Technology, 2016 Sep 1;91(1):12.
- 2. **Hussain, A.,** Chellappan, K., & Zamratol, S. M. 2017. Development of Malay Language based Spatial Audio Simulator for Auditory Training Software. Accepted at Journal of Engineering and Applied Sciences.
- 3. Hassan I, **Hussain A**. Image Segmentation using Weighted Average Local Histogram. International Journal of Computer Applications. 2013 Jan 1;64(19).
- 4. Daiyan GM, **Hussain A**, Akter F, Rakshit H. Study on a Hybrid Approach for Improving Clinical Behavior of Cancer by Assorting Informative Genes. International Journal of Computer Applications. 2013 Jan 1;66(18).

- 5. **Hussain A,** Chellappan K, Zamratol S. Investigation of Speech Quality Performance under Low SNR based Acoustic Environment using Single Channel Ideal Binary Mask Technique for Auditory Training System. PLoS One, *under review*.
- 6. **Hussain A**, Chellappan K, Zamratol S. Development of Malay Language based Spatial Audio Simulator for Auditory Training Software. IETE Journal of Research, *under review*.

Conference Proceedings

- **Hussain A**, Chellappan K, Zamratol S. Speech Enhancement using Degenerate Unmixing Estimation Technique and Adaptive Noise Cancellation Technique as a Post Signal Processing. In Biomedical Engineering and Sciences (IECBES), 2016 IEEE Conference on 2016 Dec 4-8 (pp. 280-285). IEEE.
- **Hussain A**, Chellappan K, Zamratol S. Evaluation of multichannel speech signal separation with beamforming techniques. In Biomedical Engineering and Sciences (IECBES), 2014 IEEE Conference on 2014 Dec 8 (pp. 766-771). IEEE.
- **Hussain A**, Chellappan K, Zamratol S. Evaluation of Source Separation using Projection Pursuit Algorithm for Computer-based Auditory Training System. Accepted in 2017 IEEE International Conference on System Engineering and Technology (ICSET) 2017.
- **Hussain, A.**, Chellappan, K., & Zamratol, M. S. 2017. Evaluation of Two-Channel Source Separation Using Exploratory Projection Pursuit Technique. Abstract in Jurnal Sains Kesihatan Malaysia. DOI: http://dx.doi.org./10.17576/JSKM-2018-28. 2018:211

Intellectual Property

Product: Spatial Auditory Assessment Simulator

Category: Copyright

Collaborative Innovation Center / Center for Innovation Collaboration National University of Malaysia / The National University of Malaysia

Technical Skills

Software: QuarkXPress, Photoshop, ImageReady, MS Project, Crystal Reports, MS Office

(Word, Access, Excel, PowerPoint)

Web/Multimedia: ColdFusion, Flash, Dreamweaver, Fireworks, EMC Documentum, Visual SourceSafe,

Search Optimisation, Web Server Administration, Content Management Systems

Specialties: Speech signal processing toolbox development: Array signal processing, Single channel processing, Complex acoustic environment, Virtual acoustical control tool, Speech quality and speech intelligibility measurement tool

Digital audio editing software: Sound Forge Pro 10.0, Sound Forge Pro 11.0, Praat Software, Audacity

Programming Skills: C/C++, Matlab

Academic Awards

- ♣ Postgraduate Research Fellowship Scheme (ZAMALAH) for Postgraduate (Masters') study at University Kebangsaan Malaysia (UKM).
 Sept' 14 Feb'16
- ♣ Undergraduate Scholarship from Nippon Foundation, Japan

2006 - 2007

Extra-Curricular Activities and Awards

1. Executive member at Bangladeshi Students' Association of UKM (BSA-UKM).

Sept' 14 - Sep'15

- 2. Vice-president at Bangladeshi Students' Association of UKM (BSA-UKM). Sept' 15 Nov'15
- Awarded for Top 20 finalists (out of 100) at 'Bahasa Melayu' (Official language of Malaysia) language competition.

 Aug'14
- 4. Graduate Ambassador (GA) of UKM.

Aug' 14 - Sep'15

References

1. Kalaivani Chellappan, Ph.D.

Senior Lecturer, Department of Electrical, Electronic and Systems Engineering, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia. kckalai@ukm.edu.my

2. Siti Zamratol Mai Sara Mukari

Professor of Audiology and Director of Institute of Ear, Hearing & Speech, Universiti Kebangsaan Malaysia

zamratol@hotmail.com