

PERSONAL INFORMATION



EMRAN ALI [Name: Emran Surname: Ali]

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Gender: Male | Nationality: Bangladeshi (By birth)

PERSONAL STATEMENT

I am an enthusiastic, hardworking, and patient life-long learner who has experience in teaching and research at university with industrial development skills. I developed excellent critical thinking, problem solving, computer programming, communication and management skills throughout my studies and professional periods. I wish to expand and use my knowledge and experiences to contribute to the outcome based productive progresses to the industries.

TEACHING EXPERIENCE

(2) Sept. 2017 – Jan. 2023

Faculty Member (Assistant Professor², Lecturer¹) [Full time] – *Currently on study leave*

(1) Sept. 2014 – Aug. 2017

Department of Computer Science and Engineering (CSE)

Hajee Mohammad Danesh Science and Technology University (HSTU), Dinajpur-5200, Bangladesh. (<http://hstu.ac.bd>)

Responsibilities: Teaching | Assessment | Research

CASUAL TEACHING EXPERIENCE

(4) Jul. 2022 – Nov. 2022

Casual Academic ^{1,2,3,4} [Contract]

(3) Feb. 2022 – Jun. 2022

Faculty of Science, Technology and Build Environment (SEBE)

(2) Jul. 2021 – Nov. 2021

Deakin University, Melbourne Burwood Campus, Australia. (<http://deakin.edu.au>)

(1) Jul. 2020 – Nov. 2020

Responsibilities: Course tutoring^{1,2,3} | Student HelpHub tutoring^{1,2,3,4}

CASUAL RESEARCH JOB EXPERIENCE

(2) Mar. 2022 – Feb. 2023

Casual Research Assistant [Contract]

(1) Aug. 2021 – Dec. 2021

Deakin University, Melbourne Burwood Campus, Australia. (<http://deakin.edu.au>)

[Voluntary: Jun. 2020 – Sep. 2022]

- Design of an optimised seizure detection system for ICU patients
- IoT sensor-based indoor air temperature prediction using deep ensemble machine learning: an Australian urban environment case study

Involvement: Research | Collaboration | Article publication

INDUSTRIAL WORK EXPERIENCE

May. 2012 – Aug. 2014

Software Development Manager and Senior Software Engineer [Full time]

Advanced Apps Bangladesh Limited. (AAPBD) Dhaka, Bangladesh. (<https://www.aapbd.com>)

Responsibilities: iOS application development & testing | Project, team and client management

Feb. 2012 – May. 2012

Junior Programmer [Full time]

Kento Studios Limited, Dhaka, Bangladesh. (<http://www.kentostudios.com>)

Responsibilities: iOS application development and testing | Game design

ACADEMIC INFORMATION

Jan. 2023 – Till Date (Continuing)	<p>Doctor of Philosophy (PhD) -</p> <p>Deakin University, Melbourne, Australia. (http://deakin.edu.au) <i>Cotutelle (joint) with</i> Coventry University, Coventry, the UK. (https://www.coventry.ac.uk)</p> <p>Funding: Deakin University Post-graduate Research Scholarship (DUPRS) and PGR Studentship during the stay at Coventry University.</p> <p>Research and Thesis Title: A Machine Learning Based Analysis of Sleep Patterns in Aging Using Physiological Signals</p> <p>Experiences and Activities: Research methodology Python programming language Digital signal processing Machine Learning (ML) and Deep Learning (DL) Health Informatics Explainable/interpretable ML</p>
Feb. 2020 – Aug. 2022 (Awarded in Oct. 2022)	<p>Master of Science (by Research) in Information Technology Awarded</p> <p>Deakin University, Melbourne Burwood Campus, Australia. (http://deakin.edu.au)</p> <p>Funding: Bangabandhu Science and Technology Fellowship (BSTF). Funded by: Bangabandhu Science and Technology Fellowship Trust (BSTFT), The Ministry of Science and Technology, The Government of Peoples Republic of Bangladesh.</p> <p>Research and Thesis Title: Minimising Electroencephalogram Channels for Epileptic Seizure Detection</p> <p>Experiences and Activities: Research methodology Python programming language Digital signal processing Machine Learning (ML) and Deep Learning (DL) Health Informatics Explainable/interpretable ML</p>
Jan. 2007 – Dec. 2010 (Awarded in Feb. 2012)	<p>Bachelor of Science in Computer Science and Engineering (B.Sc in CSE) A- (3.65 out of 4.0)</p> <p>Hajee Mohammad Danesh Science and Technology University (HSTU), Dinajpur-5200, Bangladesh. (http://hstu.ac.bd)</p> <p>Research and Thesis Title: J2ME English to English dictionary application with improved binary search (Indexed-Binary search) technique. (Research is conducted on the last year of the program)</p> <p>Core Courses: Core Mathematics Discrete and Concrete Mathematics Fundamental Physics Electrical and Electronics Computer Programming Databases Software Engineering Artificial Intelligence Machine Learning Pattern Recognition Microprocessors Digital System Design</p>

RESEARCH INVOLVEMENT

Research Interest	<p>Machine Learning and Deep Learning in the applied fields especially- healthcare, automation, biosignal analysis, sleep and aging.</p> <ul style="list-style-type: none"> ▪ Data Science ▪ Machine Learning and Deep Learning ▪ Bio-signal Processing & Analysis ▪ Epilepsy, Sleep, Aging and Environment ▪ Health Informatics and Biomedical InfoTech ▪ Disease Detection and Prediction ▪ Time-series Data Analysis ▪ Human-Computer Interaction
Research Publications (Posters)	<ul style="list-style-type: none"> ▪ "Deep Learning Model for Detection of Electrographic Seizures from continuous EEG in ICU patients", American Epilepsy Society (AES) Annual Conference 2021, 22 November 2021. <p>Link: https://cms.aesnet.org/abstractslisting/deep-learning-model-for-detection-of-electrographic-seizures-from-continuous-eeeg-in-icu-patients</p>

Research Publications
(Conferences)

- "Performance Analysis of Entropy Methods in Detecting Epileptic Seizure from Surface Electroencephalograms," IEEE Engineering in Medicine & Biology Society (EMBC), 2021, Maxico City, Maxico. Link: <https://doi.org/10.1109/EMBC46164.2021.9629538c>
- "Efficient Noise Reduction and HOG Feature Extraction for Sign Language Recognition", ICAEEE, 2018, Gazipur, Bangladesh. Link: <https://doi.org/10.1109/ICAEEE.2018.8642983>
- "Indexed Binary Search based efficient search generator for J2ME English to English dictionary", ICIEV, 2014, Dhaka, Bangladesh. Link: <https://doi.org/10.1109/ICIEV.2014.6850692>

Research Publications
(Journals)

- "A LSB Based Image Steganography Using Random Pixel and Bit Selection for High Payload", IJMSC, 2021. Link: <https://doi.org/10.5815/ijmsc.2021.03.03>
- "Enhancement of Single-Handed Bengali Sign Language Recognition Based on Hog Features", JATIT, 2020. Link: <http://www.jatit.org/volumes/Vol98No5/2Vol98No5.pdf>
- "Mapping Character Position Based Cryptographic algorithm with Numerical Conversions.", IJCSSE, 2020. Link: <https://ijcsse.org/published/volume9/issue3/p1-V9I3.pdf>
- "Pseudo Random Ternary Sequence and Its Autocorrelation Property Over Finite Field", IJCNIS, 2017. Link: <https://doi.org/10.5815/ijcnis.2017.09.07>
- "Smart Campus Using IoT with Bangladesh Perspective: A Possibility and Limitation", IJRASET, 2017. Link: <https://doi.org/10.22214/IJRASET.2017.8239>
- "Study of Abstractive Text Summarization Techniques", AJER, 2017. Link: [https://www.ajer.org/papers/v6\(08\)/ZE0608253260.pdf](https://www.ajer.org/papers/v6(08)/ZE0608253260.pdf)
- "Performance Analysis of Energy Detection Based Spectrum Sensing Over Wireless Non-Fading AWGN Channels in Cognitive Radio Network", IJSER, 2017. Link: <https://www.ijser.org/researchpaper/Performance-Analysis-of-Energy-Detection-Based-Spectrum-Sensing-Over-Wireless-Non-Fading-AWGN-Channels-in-Cognitive-Radio-Network.pdf>

SKILLS AND TOOLS

Language Skills

Personal Skills

Programming Languages

Document Writing and
Presentation Tools

- Bengali: Native language
- English: Professional competence level
- Critical thinking | Problem solving | Communication | Leadership | Event management
- Python (Machine and Deep Learning) | Objective-C | Java | C | C++ | C# | R language
- Latex | Microsoft Word | Adobe Illustrator | Microsoft PowerPoint

ADDITIONAL INFORMATION

Events and Sessions

- Speaker, A seminar on Higher Studies in Abroad - Journey to Australia and Research Experiences, Organized by CSE Club, HSTU; September: 2022.
- Keynote Speaker, A seminar on Career development and future of Mobile Application Development in Bangladesh, Organized by CSE Association, HSTU; Apr: 2015.

Scholarships and Fellowships

Scholarship:

- Deakin University Post-graduate Research Scholarship (DUPRS), Deakin University, Australia.
- Cotutelle PhD Studentship, Coventry University, the UK.

Fellowship:

- Bangabandhu Science and Technology Fellowship (BSTF), Bangabandhu Science and Technology Fellowship Trust (BSTFT), Ministry of Science and Technology, Bangladesh.
- Deakin University Post-graduate Research Scholarship (DUPRS), Deakin University, Australia.

Projects and Funding

Research Projects:

- Research Supervisor, *Development of three-layer network architecture to prevent web servers from DDoS attack*, Funded by IRT (Institute of Research and Training), HSTU; Jul 2019 – Jun. 2020.
- Research Supervisor, *Analysis and design of a non-invasive way of measuring, monitoring and predicting blood-sodium concentration level using near-infrared spectroscopy*, Funded by IRT (Institute of Research and Training), HSTU; Jul 2019 – Jun. 2020.

Honours and Awards

- Cocutelle PhD Fellow, Deakin University, Australia & Coventry University, the UK, 2023.
- Best Presentation Award, Annual Conference (2021), School of IT, Deakin University.
- Best employee award in AAPBD, 2013.
- Ranked 1st from Bangladesh in the entrance exam-2013 for Masters Program in South Asian University (SAU), India, operated by SAARC (<https://www.saarc-sec.org>).
- Ranked 1st in the batch in Bachelors from CSE department at HSTU, 2012.
- Ranked 1st in the Intra-University Computer Programming Contest (CPC) at HSTU, 2009.

Memberships

- Member, Deakin University Student Association (DUSA)
- Member, Deakin University AI Society (DAIS)
- Member, Deakin University Software Engineering Club (DSEC)
- IEEE student member.
- IEEE EMBS (Engineering in Medicine and Biology Society) student member.
- Advisor and founding member, HSTU-Programmers Arena, HSTU
- Advisor, CSE Club of HSTU, HSTU

Social Networks

- LinkedIn: <https://bd.linkedin.com/in/wwmemran>
- Google Scholar: <https://scholar.google.com/citations?user=ej8d6LkAAAAI>
- Research Gate: https://www.researchgate.net/profile/Emran_Ali
- GitHub: <https://github.com/WWM-EMRAN>
- ORCID: <https://orcid.org/0000-0003-3095-5265>

REFERENCES

Available upon request.