# EDUCATION

# B.Sc. in Electrical and Electronic Engineering 2016-2020 Khulna University of Engineering & Technology (KUET), Khulna-9203, Bangladesh CGPA: 3.14/4.00 Higher Secondary Certificate (HSC) 2013-2015 GPA: 5.00/5.00 Secondary School Certificate (SSC) 2011-2013 GPA: 5.00/5.00

# STANDARDIZED TEST SCORE

* **GRE:** Overall Score **320** (Quantitative-168**,** Verbal-152**,** AWA-3.5) 1 June, 2023
* **IELTS:** Overall Score **7.5** (L-8.5**,** R-7.5**,** W-6.5**,** S-7.0) 22 August, 2023

# RESEARCH EXPERIENCE

**Undergraduate Thesis:** 2019-2020  
**Title:** “***Speech Signal-based Automatic Bengali Alphabets Recognition using Convolutional Neural Network***”  
The Mel Frequency Cepstral Coefficient (MFCC) feature extraction process was carried out using the Librosa library in Python. These extracted features were then inputted into a Convolutional Neural Network (CNN) that consisted of input, convolution, max-pooling, flattening, and output layers. The dataset used for this task was created by collecting data from individuals in different regions of Bangladesh.

# RESEARCH INTERESTS

|  |  |
| --- | --- |
| Physiological Signal Processing | Medical Imaging |
| Non-invasive Wearable Devices | Disease Diagnosis and Forecasting |
| Deep Learning | Internet of Things (IoT) |

# TECHNICAL SKILLS

# Programming Language: C, C++, Python, MATLAB, VHDL

# Simulation Software: COMSOL, AutoCAD, Cadence, Modelsim, Quartus Altera

# Analytical Tools: BLAST, ImageJ, Praat, LabVIEW

# Framework & Libraries: TensorFlow, Keras, Pytorch, Scikit-Learn

# Electronic Design Tools: Proteus, PSpice

# Office Suits: MS Word, MS Excel, MS PowerPoint

# PROJECTS

* **Obstructive Sleep Apnea (OSA) Detection using Neural Network and Machine Learning** 2021

The process involved in identifying OSA entailed the segmentation and feature extraction of datasets derived from ECG and SpO2 signals. The extracted features were employed as input to the proposed CNN and SVM to detect OSA.

* **EEG Signal-based Emotion Classification using Deep Neural Network** 2019

Wavelet transformation was performed to extract the valuable features from the EEG dataset. Afterward, by lowering the dimension, the DNN was trained to predict the state of mind.

* **Bangla Sign Language Recognition using Deep Transfer Learning-based Approach** 2018

A multi-layer Deep Transfer Learning-based Convolutional Neural Network was employed to detect and interpret sign language. The model’s performance was evaluated using the Ishara-Bochon and Ishara-Lipi datasets.

* **Design and Implementation of an Automatic Blood Pressure Monitoring System** 2018

A blood pressure monitoring device was designed and implemented by incorporating components such as a pressure sensor, microcontroller, oscillator, analog-to-digital converter, and more.

* Top of Form

# PROFESSIONAL EXPERIENCE

**Executive – Technical Support Division** 2021-Present  
 SAL Inspection Limited, Dhaka-1230, Bangladesh

* Analyzing demand forecast data and follow-up quality Audit Reports
* To define data pipeline, identify opportunities, and bridge the gap between business needs and data insights
* To conduct scrap inspection, troubleshooting, and ensure the quality of electronic products

# TEACHING EXPERIENCE

**Mathematics and Physics Instructor** 2016-2021

Taught those subjects to numerous college students for 11th,12th-grade, and university entrance exams at a coaching center. And 80% of them got admission to top-ranked universities in Bangladesh.

# TRAINING AND WORKSHOPS

1. Workshop on HVAC power protection – Organized by the Department of EEE**,** KUET 2019
2. Industrial Attachment at Northwest Power Generation Company Ltd. (Got acquainted with the 2019  
   operation, maintenance, and protection of HFO-based Combined Cycle Power Plant)
3. Workshop on Embedded System Security – Arranged by the EEE Makers Hub 2019
4. Training on hands-on guide and usage of Rasberry Pi – Organized by Robotics Club KUET 2018

# AWARD AND ACHIEVEMENTS

1. Merit order **Technical Scholarship** throughout the four years of study of B.Sc. Engineering 2016-2020
2. **General Scholarship** in Higher Secondary Certificate Examination (HSC)2015  
   This scholarshipis awarded tocandidates, who secure excellent total scores, by the government.
3. **Champion** in Regional Physics Olympiad at the district level 2014
4. **Talentpool Scholarship** in both JSCand SSCexaminations 2009 and 2013  
   These scholarshipsare awarded tocandidates, who secure excellent total scores, by the government.

# EXTRA-CURRICULAR ACTIVITIES

**Vice President,** Greater Barishal Association of KUET 2019-2020  
**Hall Coordinator,** Amar Ekushey Hall (Residential)**,** KUET 2019-2020  
**Organizer,** EEE Day 2019, KUET 2019  
**Assistant General Secretary,** EEE Associationof KUET 2017-2018  
**Program Coordinator,** Inter-University Tech Fiesta 2.0 2016

# REFERENCES

# Dr. Ashraful Ghani Bhuiyan Dr. Md. Mahbub Hasan Professor, Department of EEE Professor, Department of EEE Khulna University of Engineering & Technology Khulna University of Engineering & Technology Email: [ashraf@eee.kuet.ac.bd](mailto:ashraf@eee.kuet.ac.bd) Email: [mahbub01@eee.kuet.ac.bd](mailto:mahbub01@eee.kuet.ac.bd)

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