Dewan Mohammad Asad

d1adewanasad@gmail.com +88 01954545698

2/3 Humayun Road, Block-B, Mohammadpur, Dhaka

dewan-mohammad-asad-096a73174 dewan-mohammad-asad-d1a

Professional Experience

Research Assistant 06/2024 – Present
RISE,BUET Dhaka, Bangladesh

Intern 11/2023
BREB Dhaka, Bangladesh

Research Experience

Estimating Energy Requirements for Multi-Route Urban Commutes *Supervisor: Dr. M.A. Arafat, BUET | 2024 – Present*
- Developing ML/DL models using Google Maps traffic & elevation data for EV energy prediction.
- Collaborating with **Palki Motors** for real-world vehicle & battery datasets.

Solid-State DC Circuit Breaker Design *Supervisor: Dr. M.A. Arafat, BUET | 2024 – Present*
- Designing **high-speed SSCB** with improved fault detection & robustness to parasitics.
- Focused on enhancing safety & reliability in modern DC grids.

Advanced Control of SEPIC Converters *Supervisor: Dr. A.B.M. Harun-Ur-Rashid, BUET | May 2023 – Present*
- Applying **PSO, GA, and RL** for optimal SEPIC control and transient performance improvement.
- Investigating CCM/DCM behavior via MATLAB/Simulink and PLECS.

Load Forecasting & PQD Classification *Supervisor: Dr. A.H. Chowdhury, BUET | May 2023 – Present*
- Built **PQD classifiers** using Vision Transformers with GASF encoding.
- Developed **load forecasting models** for Dhaka using RNN, LSTM, and GRU.

Publications

- **Dewan Mohammad Asad**, Mahin Shahriar, and Abdul Hasib Chowdhury "High-Accuracy Power Quality Disturbance Classification Using Vision Transformers and GASF Encoded Signals", *International Journal of Electrical Power and Energy Systems* (Submitted)
- **Dewan Mohammad Asad**, Md. Ashikur Rahman Any, and A.B.M. Harun-Ur Rashid, "Optimizing LED Driver Transients Using ANN and ANFIS Control in SEPIC Converters," *2024 13th International Conference on Electrical and Computer Engineering (ICECE)*, Dhaka, Bangladesh, 2024, pp. 270-275, doi: 10.1109/ICECE64886.2024.11024909
- **Dewan Mohammad Asad**, Mahin Shahriar, and Abdul Hasib Chowdhury "Load Forecasting for Dhaka City Using RNN, LSTM, and GRU Architectures with Meteorological and Temporal Data," 2025 International Conference on Electrical, Computer and Communication Engineering (ECCE), Chittagong, Bangladesh, 2025, pp. 1-6, doi: 10.1109/ECCE64574.2025.11013779

Education

M.Sc. in Electrical and Electronic Engineering (EEE) 08/2024 – present
Bangladesh University of Engineering and Technology (BUET) Dhaka, Bangladesh
- Major: **Electronics**

B.Sc. in Electrical and Electronic Engineering (EEE) 04/2019 – 06/2024
Bangladesh University of Engineering and Technology (BUET) Dhaka, Bangladesh
- Major : **Power**
- CGPA : **3.63** (Out of 4.00)

Higher Secondary Certificate (HSC) 2016 – 2018
Notre Dame College Dhaka, Bangladesh
- GPA: **5.00** (Out of 5.00)

Academic Projects

Hardware Projects

- **Smart Smoke Detector Using 74-Series ICs** || Digital Electronics Laboratory || Built a 74-series IC-based system (no microcontroller) to digitize smoke sensor output, featuring adjustable alarm thresholds and a 7-second auto-reset timer.
- **Adjustable DC Power Supply Generation** || Power Electronics Laboratory || Designed a lab-grade buck-boost power supply with wide voltage range and current-limiting protection for stable operation.
- **Human Following Robot** || Control System I Lab || Developed an Arduino-based robot with IR and ultrasonic sensors to detect and follow human presence.

Software Projects

- **Electrical Design of a Building** || Electrical Services Design || Designed the ground and typical floor plans for a 9-storey, three-unit building, including fittings and fixtures, conduit layout, switchboard and distribution board diagrams, and a lightning protection system (LPS).
- **Panzer Fight (Arcade Game)** || Numerical Technique Lab || Developed a MATLAB-based multiplayer arcade game featuring panzer combat with shell-firing mechanics, dynamic barriers, and adjustable difficulty levels.
- **Classification of Tumours from MRI Images** || Digital Signal Processing I Lab || Classified four classes of tumors with the help of MATLAB image processing toolbox and Machine learning toolbox.

Achievements & Awards

Dean's List
- Recipient of Dean’s List Scholarship for the year for academic excellence in 2020

Admission Test Scholarship
- Recipient of Scholarship for excellent position in BUET admission test exam

Skills

Programming
- Verilog, Arduino, STM-32, Assembly, C/C++, C#, Python, MATLAB, Java, JavasSript, TypeScript, PHP, LaTeX, HTML, CSS, JavaScript, React, NextJS, Django.

Softwares
- Keil-uVision4, Keil-uVision5, Quartus (Verilog) , PyCharm, PSpice, LTspice, AutoCAD, Proteus, Arduino, MATLAB, Simulink, PSAF, Cisco Packet Tracer, Altium, Adobe Illustrator & Premier Pro, Overleaf (LaTex), Powerpoint, Excel, Word etc.

References

Dr. A. B. M. Harun-Ur-Rashid
Professor & Head
Department of EEE, BUET
abmhrashid@eee.buet.ac.bd ,
+88 01710852886

Dr. Muhammad Abdullah Arafat
Associate Professor
Department of EEE, BUET
abdullah_arafat@eee.buet.ac.bd
+88 01553287666