

Dewan Mohammad Asad

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PROFESSIONAL EXPERIENCE

Research Assistant <i>Research and Innovation Centre for Science and Engineering, BUET</i>	06/2024 – Present Dhaka, Bangladesh
Intern <i>Bangladesh Rural Electrification Board</i>	11/2023 Dhaka, Bangladesh

RESEARCH EXPERIENCE

Solid-State DC Circuit Breaker Design <i>Supervisor: Dr. M.A. Arafat, Associate Professor, EEE, BUET</i> <ul style="list-style-type: none">Designing, developing, and testing high-speed SSCB with improved fault detection & robustness to parasitics, which focuses on enhancing safety & reliability in modern DC grids.	05/2024 – Present
Estimating Energy Requirements for Multi-Route Urban Commutes <i>Supervisor: Dr. M.A. Arafat, Associate Professor, EEE, BUET</i> <ul style="list-style-type: none">Implemented physics-based, ML, and DL models for accurate using Google Maps traffic & elevation data for EV energy prediction. Collaborated with Palki Motors for real-world vehicle, traffic, & battery data.	05/2024 – 10/2025
Advanced Control of SEPIC Converters <i>Supervisor: Dr. A.B.M. Harun-Ur-Rashid, Head of the Department, EEE, BUET</i> <ul style="list-style-type: none">Investigated AI-driven control strategies to enhance transient performance in SEPIC converters and applied PSO, Genetic Algorithms, ANN, ANFIS, and Reinforcement Learning for optimal controller tuning. Analyzed converter operation in CCM and DCM conduction modes.	04/2023 – 08/2025
Load Forecasting & PQD Classification <i>Supervisor: Dr. A.H. Chowdhury, Professor in EEE and Pro-Vice Chancellor, BUET</i> <ul style="list-style-type: none">Built PQD classifiers using Vision Transformers with GASF encoding.Developed load forecasting models for Dhaka using RNN, LSTM, and GRU.	11/2023 – 06/2025

PUBLICATIONS

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) <i>Bangladesh University of Engineering and Technology (BUET)</i> <ul style="list-style-type: none">Major: Electronics	08/2024 – present Dhaka, Bangladesh
B.Sc. in Electrical and Electronic Engineering (EEE) <i>Bangladesh University of Engineering and Technology (BUET)</i> <ul style="list-style-type: none">Major: PowerCGPA: 3.63/4.00 (3.87/4.00 in the final semester)	04/2019 – 06/2024 Dhaka, Bangladesh
Higher Secondary Certificate (HSC) <i>Notre Dame College</i> <ul style="list-style-type: none">GPA: 5.00 (Out of 5.00)	2016 – 2018 Dhaka, Bangladesh

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.
- **Weather Station Unit** || Communication System I Laboratory || Developed a system using Arduino and a LoRa module to transmit and receive weather sensor data from remote locations.
- **Dual Axes Solar Tracker** || Microprocessors & Embedded Systems Lab || Developed a microcontroller based dual axis solar tracker for optimum solar power generation.

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.
- **PSO Based Load Frequency Control** || Power Systems II Lab || Developed a Particle Swarm Optimization Based Load Frequency Control system in SIMULINK
- **Audio Frequency Filters** || Electronic Circuits II Lab || Simulated and designed active/passive bandpass/lowpass/highpass filters in Proteus, optimizing performance for precise frequency response.

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, JavaScript, TypeScript, PHP, LaTeX, HTML, CSS, JavaScript, React, NextJS, Django.

Softwares

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

STANDARDIZED TEST SCORES

IELTS

Overall Band: 8.0

Listening: 8.0 | Reading: 9.0 | Writing: 7.0 | Speaking: 7.5

REFERENCES

Dr. A. B. M. Harun-Ur-Rashid

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Dr. Muhammad Abdullah Arafat

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