A.K.M. Aktaruzzaman Shuvo

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Website: https://aktaruzzamanshuvo.github.io/

EDUCATION AND TRAINING

B.Sc. in Electrical & Electronic Engineering
Ahsanullah University of Science & Technology [2019 – 2023]

City: Dhaka | **Country:** Bangladesh | **Website:** www.aust.edu | **Field(s) of study:** Electrical & Electronic Engineering | **Thesis:** Investigation of Electric Properties of Bismuth Ferrite Nanoparticles at Various Temperatures

Higher Secondary Certificate (HSC)
Gaibandha Government College [2016 – 2017]

City: Gaibandha | **Country:** Bangladesh | **Website:** https://ggc.edu.bd | **Field(s) of study:** Science

Secondary School Certificate (SSC)
Gaibandha Govt. Boys' High School [2014 – 2015]

City: Gaibandha | **Country:** Bangladesh | **Website:** https://ggbhs.edu.bd | **Field(s) of study:** Science

WORK EXPERIENCE

BGMEA University of Fashion Technology – Dhaka, Bangladesh

City: Dhaka | **Country:** Bangladesh
Lecturer

[Jun 2024 – Sep 2024]

Taught 3 theory and 5 lab courses, prepared OBE course files, and administered assessments.

Ulterior Engineering – Dhaka, Bangladesh

City: Dhaka | **Country:** Bangladesh
Intern - Industrial Motor Controlling Techniques with Project

[Jul 2024]

Worked on relay logic control, motor controlling center (MCC), wye-delta starter, Direct Online(DOL), Resistance control, and VFD control methods.

AbartanBD

Intern- Thesis and Research Publication Guideline

[May 2022 – Jun 2022]

Learned fundamentals of research including abstract writing, literature review, research development, methodology, and proposal documentation. Gained hands-on experience with research tools and proposal preparation techniques.

CONFERENCES AND SEMINARS

[Feb 2025] Tuticorin (Thoothukudi), Tamil Nadu, India
2025 International Conference on Electronics and Renewable Systems

[Oct 2023] Bangladesh
Final Year Design Project (FYDP) Poster Exhibition & Competition

[Mar 2023] Bangladesh
Research Symposium 2023: An Intra AUST Research Exhibition

LANGUAGE SKILLS

Mother tongue(s): Bangla

Other language(s):

English

LISTENING C1 **READING** C2 **WRITING** C2

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Software Tools

CADENCE Virtuoso / Homer Pro / Power world simulator / Origin Pro / Orcad / PSpice / MATLAB/simulink / Autocad 2D / Circuit Design: LTspice, Proteus / Multisim / Microsoft Visio / MS Office (MS Word, MS PowerPoint, MS Excel, MS)

Hardware

Arduino Uno / ESP8266 IoT / FPGA / MPU 8086 / Arduino Nano / Sensor Integration

Programming Language

C++ / Python(Basic) / C

PROJECTS

Different CMOS SRAM Circuits' Implementation and Performance Analysis -Cadence Virtuoso
110Hz Notch filter, Pole-zero placement, MATLAB, FFT analysis, DSP filter design, biomedical signal processing.

Design of a PID controller for Electric traction motor Control
Arduino-based Energy-Efficient Escalator Prototype, object detection sensors, relay control, motor control, microcontroller programming, sensor integration, and safety automation.

Optimum Power Control at Different Loading using Current Injector Device
AC load balancing, current injector, relays, MCBs, substation power control, and power system operations.

SG3525 PWM Inverter 12V to 220V, 300W using two IRF-520 transistors | Teamwork
Designed a 300W inverter using SG3525 PWM IC and IRF-520 transistors to convert 12V DC to 220V AC. Controlled output via PWM and tested using oscilloscope and multimeter. Gained skills in PWM control, transistor triggering, circuit soldering, and measurement techniques.

Microcontroller-based Energy Efficient Escalator using Arduino Uno
Developed an energy-efficient escalator using ATmega32 and human detection sensors for automated, safe control. Programmed relays, indicators, and heavy torque motor. Gained skills in microcontroller programming and sensor integration with safety measures.

Designing a Notch filter to eliminate noise from an ECG signal
Developed and implemented a 110Hz notch filter using pole-zero placement in MATLAB to remove noise from an ECG signal. Analyzed time and frequency responses using FFT. Gained skills in DSP, filter design, and biomedical signal processing.scription.

2D illustration of 800 sq ft Flat and Electrical Load Connection Design using AutoCAD
Designed a 2D layout of an 800 sq. ft. flat with structural elements using AutoCAD. Developed electrical load plans with cable sizing, MCBs, RCBs, switchboards, and load calculations, adhering to industry standards for safety and efficiency.

PUBLICATIONS

[2025]

Comparative Techno-Economic Feasibility Analysis of Hybrid Renewable Energy-based EV Charging Stations in a Developing Country

Authors: Md Saiful Islam; A.K.M. Aktaruzzaman Shuvo; Sumaiya Haque; Ahmed Mohsin Rizvi; Shameem Hasan | **Journal Name**: 2025 International Conference on Electronics and Renewable Systems (ICEARS) | **Volume, Issue and Pages**: pp. 32–37 | **Publisher**: IEEE

[2023]

Investigation of Electric Properties of Bismuth Ferrite Nanoparticles at Various Temperatures

*Undergrad Thesis-**supervied** by **Prof. Dr. Meganur Rahman***

VOLUNTEERING

[Jun 2023 – Nov 2023] Dhaka,Bangladesh

AUST Research & Publication Club

Volunteered & Participated in "Research Symposium 2023: An Intra AUST Research Exhibition" and workshops to develop academic skills.

[Jan 2022 – Nov 2023] Dhaka,Bangladesh

AUST Programming Club (AUSTPIC)

Volunteered at programming contests and participated in different workshops led by AUSTPIC.

Dhaka,Bangladesh

Participant, VLSI Hackathon: MINDSPARKS23

Organized by AUST Innovation and Design Club

Competed in an intra-university hackathon focused on RTL coding, analog circuit design, and digital logic circuits, engaging with peers from other universities in the field of VLSI design.

RECOMMENDATIONS

Name: **Prof. Dr. Md. Meganur Rhaman** | Supervisor

- Known Prof. Dr. Rhaman for years through courses and thesis.

- Excellent mentor with strong academic guidance.

- Highly recommend for support and expertise.

Email: mizan.eee@aust.edu

Name: **Dr. Fakir Sharif Hossain** | Academic Mentor

- Worked with Dr. Fakir Sharif Hossain as my mentor and instructor for several years.

- He guided me in key academic and career decisions.

- Grateful for his support and highly recommend him.

Email: fshossain.eee@aust.edu