

TAHRIMA ASHRAF

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SUMMARY OF SKILLS AND QUALIFICATIONS

Simulation and Engineering Software: PSpice, Proteus 8 Professional, Quartus, PowerWorld Simulator, Tinkercad, MATLAB, AutoCAD, and Cadence EDA

Programming Languages: C, C++, Python, and Verilog

Programming and Development Tools: MATLAB, CodeBlocks, Arduino, and machine-learning tools

Microsoft Office: MS Word, MS Excel, and MS PowerPoint

Hardware: Arduino

Core Competencies: Computer proficiency, teamwork, time management, punctuality, adaptability, critical thinking, leadership, active listening, flexibility, attention to detail, and communication

EDUCATION

Bachelor of Science in Electrical and Electronic Engineering

2018-2022

Ahsanullah University of Science and Technology, Tejgaon, Dhaka

- CGPA: 3.87/4.00.
- Received a consecutive 50% tuition waiver based on academic merit.

Higher Secondary School Certificate

2017

- GPA: 5.00.

Secondary School Certificate

2015

- GPA: 5.00.

RESEARCH AND THESIS

Conference Paper

2025

- "Metamaterial-Inspired Antenna Sensor Design for Non-Invasive Blood Potassium Level Determination," presented at the 4th IEEE International Conference on Biomedical Engineering, Computer and Information Technology for Health (IEEE BECITHCON 2025).

Undergraduate Thesis

- "Plant Disease Detection Using Image Processing and Machine Learning."

Ongoing Research

- Conducting research in solar energy, with a focus on renewable-energy technologies and applications.

EXPERIENCE

Full-Time Lecturer

15 Oct 2023-Present

Department of Electrical and Electronic Engineering, Manarat International University, Dhaka, Bangladesh

- Teach students in both the general and evening programs of the Department of Electrical and Electronic Engineering.
- Prepare and deliver course materials, assess academic performance, and explain complex technical concepts clearly.

Courses Taught

Circuits and Electronics: Electrical Circuits I & II; Electronics I & II

Power and Electrical Machines: Electrical Machines I & II; Transmission and Distribution; Power System Engineering

Digital, Signal and Control: Digital Electronics; Digital Signal Processing; Control Systems

Computing and Engineering Foundations: C Programming; Essential Computing; Engineering Materials; Basic Mechanical Engineering

Laboratory Instruction: Electrical Circuits, Electronics, Digital Electronics, Digital Signal Processing, and C Programming Laboratories

Project Supervision: Supervised multiple undergraduate hardware-based projects.

Private Tutor

2018-2023

- Supported students in academic preparation, class-performance assessments, and examinations.
- Prepared and presented theoretical materials, promoted confidence and skill development, and communicated complex topics in an understandable manner.

PROFESSIONAL RESPONSIBILITIES AND DEVELOPMENT

- Participated in an industrial tour at Ghorashal Power Plant in August 2025.
- Attended a seminar on "Solar Energy and Photovoltaic Cells" arranged by the School of Engineering, Science and Technology (SEST), MIU.
- Participated in the opening ceremony of the IEEE MIU Student Branch.
- Been a part of a seminar on 'A Beginner's guide to Scientific Research and Higher studies' organized by EEE club, MIU in 2026.
- Served as a convener representing the EEE Department and as an anchor for an event organized by SEST.
- Attended a training session on KPI orientation and the OBE curriculum organized by the Institutional Quality Assurance Cell (IQAC), MIU.
- Attend monthly seminars arranged by SEST.
- Serve as a member of the Inventory Committee under the Female Hostel Committee, MIU.
- Serve as Assistant Moderator of the Cultural Club, MIU.
- Serve as a member of the committee for the MIU orientation program.
- Served as an organizational assistant and host for the Annual Get-Together Program of the Female Hostel, MIU.
- Organized the EEE Annual Meet and View Exchange Program at the Gulshan Campus.
- Served as an organizational assistant for the annual inter- and intra-departmental sports and cultural program at MIU.
- Attended the workshop "Empowering Industrial Automation" in January 2025.

- Attended the workshop "Let's Code Our Career," organized by the Department of CSE.
- Visited Energypac Limited, Savar, on an industrial tour as an EEE faculty member in November 2024.
- Attended an industrial tour of the Power Grid Company of Bangladesh 132/33 kV substation in Mirpur as a faculty member in October 2023.
- Worked as a judge for different intra- and inter-departmental sports programs.
- Attended a seminar on "Higher Study and Career Opportunity Abroad: Prospects & Challenges," organized by CGED, MIU.
- Attended a workshop on "Quality Assurance and Accreditation: A New Initiative in Higher Education," organized by the Bangladesh Accreditation Council.
- Attended the view-exchange program with the Founder Board of Trustees, MIU.

PROJECTS

BCD Adder and Subtractor

- Designed a BCD adder and subtractor using a combinational circuit.

Bipolar Stepper Motor Control

- Developed a bipolar stepper-motor control project using Arduino.

Multifunctional Safety Detector

- Developed an Arduino-based detector capable of sensing high voltage, earthquakes, fire, and gas.

Voice-Signal Spectrum, Transmission, and Reproduction

- Completed a MATLAB project involving voice-data spectrum production, transmission, modulation-demodulation, and reproduction.

Multi-Access Electrometer

- Designed a multi-access electrometer using a microcontroller.

Gas-Leakage and Fire Detector with Water Sprinkler

- Developed a detection and sprinkler system using an MQ2 gas sensor and NTC thermistor.

ACADEMIC ACHIEVEMENTS

- Named to the Dean's List of Honor and secured 3rd position in the Department of EEE at Ahsanullah University of Science and Technology.
- Received a 50% tuition waiver based on merit for the B.Sc. in EEE program at AUST.
- Secured 2nd position in the Final-Year Design Project Poster Exhibition and Competition, Fall 2021, AUST, for the project "Plant Disease Detection Using Image Processing and Machine Learning."
- Awarded a General Scholarship in the Higher Secondary Certificate Examination in 2017 with GPA 5.00.
- Awarded a Talentpool Scholarship in the Secondary School Certificate Examination in 2015 and stood first in the Thana-based area with GPA 5.00.
- Awarded a Talentpool Scholarship in the Junior School Certificate Examination in 2012 with GPA 5.00.
- Awarded a Talentpool Scholarship in the Primary School Certificate Examination in 2009 and stood second in the Thana-based area with GPA 5.00.
- Received scholarships twice in intra-school and college book-based quiz competitions.
- Received merit-based scholarships from the Bangladesh Kindergarten Owners' Association and the Bangladesh Teachers Community.
- Received multiple awards for academic merit, recitation, public speaking, art, handwriting, and sports from schools, colleges, and other organizations.

EXTRA-CURRICULAR ACTIVITIES AND CERTIFICATIONS

- Participated in and secured 2nd place in the Final-Year Design Project Poster Exhibition and Competition, Fall 2021, AUST.
- Assisted the organizing team of the AUST EEE Fest by Oddoy-41 in 2022.
- Attended the seminar "Next Business Leader - Technology" by Grameenphone at AUST in 2022.
- Attended a workshop on LFR using the PID algorithm by Tetra Pico in 2020.
- Participated in CODEWARE19 and the Intra-AUST Robo-Soccer Competition, Spring 2019, organized by the AUST CSE Society.
- Participated in MINDSPARKS '18, organized by AUST IDC.
- Served as a member of the AUST Design and Innovation Club (IDC).
- Completed basic disaster-risk-management training under the Disaster Preparedness for Safer Schools Project of the Bangladesh Red Crescent Society, Dhaka City Unit.
- Represented Ideal School and College in the wall-magazine competition of the VNEC National Earth Carnival 2016.

LANGUAGE PROFICIENCY

Bengali: Mother tongue

English: Fluent in speaking, reading, and writing

IELTS Academic: Overall Band 7.0 - Reading 7.0, Writing 6.5, Listening 7.5, Speaking 7.5; Test date: 1 May 2026

INTERESTS

Watching cricket and football, exploring new ideas, art and crafting, cooking, travelling, and listening to music.

REFERENCES

Ershadul H. Choudhury

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