

# Mohammad Nazmur Rahman Emon

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Portfolio: [nazmuremon.github.io/portfolio](https://nazmuremon.github.io/portfolio)

## Professional Summary

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Embedded Systems Engineer with hands-on experience in firmware development (C/C++), PCB design, circuit simulation, and microcontroller-based system integration. Skilled in hardware bring-up, industrial communication (RS-485), IoT communication (MQTT), and technical documentation. Passionate about automation, IoT, and R&D-driven product development.

## Technical Skills

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**Programming:** C, C++, Embedded C

**Development Platforms:** Arduino IDE, PlatformIO

**Microcontroller Peripherals:** GPIO, PWM, ADC, Timer (basic)

**Communication Protocols:** UART, SPI, I<sup>2</sup>C, RS-485, MQTT, TCP/IP (basic)

**PCB & Simulation:** KiCad, EasyEDA, Proteus, 2-Layer PCB Design

**Hardware Skills:** Soldering, Debugging, Sensor Integration, Datasheet Analysis

**Design Tools:** Fusion 360, LightBurn

**Other Tools:** MATLAB, MS Office

## Professional Experience

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### Embedded System Intern

Cybernetics Hi Tech Solutions (Pvt) Ltd

Dec 2025 – Feb 2026

- Developed and tested embedded firmware using C/C++.
- Assisted in schematic review and PCB validation using KiCad.
- Integrated sensors and communication peripherals (UART, I2C, RS-485).
- Supported MQTT-based IoT telemetry implementation and testing.
- Performed hardware bring-up, soldering, debugging, and documentation.

### Lead – Circuit Simulation & PCB Design

AUST Mars Rover Team

Sep 2023 – Aug 2024

- Led schematic design and 2-layer PCB development for rover subsystems.
- Conducted circuit simulation and hardware troubleshooting.
- Collaborated with multidisciplinary teams for system integration.
- Prepared structured technical documentation and presentations.

### Customer Support Provider

ElevateMart

Nov 2023 – Jan 2025

- Resolved customer queries via chat/email.
- Coordinated between departments and maintained service quality.

## Projects

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Full Project Portfolio: [nazmuremon.github.io/portfolio/projects.html](https://nazmuremon.github.io/portfolio/projects.html)

### IoT-Based Home Security System

- Microcontroller-based smart alert system.
- Implemented MQTT communication for real-time monitoring.

## **Pure Sinewave Inverter**

- Designed stable AC output power system.

## **Automatic Power Factor Corrector**

- Developed intelligent load monitoring and correction system.

## **Patient Assist Robot**

- Assistive robotic mobility prototype.

**Other Projects** Robotic Hand, Emergency Calling Device, Fire Fighting Robot, Line Follower, Waterborne Bot, RC Quadcopter.

## **Education**

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### **B.Sc. in Electrical and Electronic Engineering**

Ahsanullah University of Science and Technology  
CGPA: 3.007 / 4.000

2020 – 2025

### **Higher Secondary Certificate (HSC)**

Adamjee Cantonment College  
GPA: 5.00 / 5.00

2017 – 2019

### **Secondary School Certificate (SSC)**

Adamjee Cantonment Public School  
GPA: 5.00 / 5.00

2015 – 2017

## **Undergraduate Thesis**

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Design of Hybrid Power System to Provide Reliable Supply to Rural Areas of Bangladesh

## **Certifications & Awards**

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- Divisional Winner – Creative Talent Hunt (2014)
- 1st Position – IT Olympiad, SAGC Science Festival (2017)
- 1st Prize – 6th DCSC National Science Exposition (2018)
- 2nd Position – DRMC 11th National Science Carnival (2018)
- 1st Position – Line Follower Competition (2019)
- Top 5 – IC4IR Industrial Exhibition (2021)

## **Leadership & Activities**

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- Sub Executive – AUST Robotics Club (2023)
- House Captain – ACC Explore Club (2018–2019)
- Participant – Sakura Science Exchange Program, Japan (2016)

## **References**

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### **Mr. M. M. Atiqur Rahman**

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Ahsanullah University of Science and Technology  
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### **Mr. Hasib Md. Abid Bin Farid**

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