

# Norul Rahaman

Electronics & Communication Engineering  
Student

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## Professional Summary

Passionate and driven Electronics & Communication Engineering student with a strong foundation in embedded systems, automation, and power systems. Demonstrates hands-on experience through internships and research projects involving PLC programming, IoT, and robotics. Interested in contributing to engineering challenges through innovation and collaboration.

## Experience

Jun 2025 – Jul 2025 **Research Intern – Robotics & Embedded Systems, NIT Jamshedpur, Jamshedpur, India**

- Designed an autonomous robotic car using Arduino, ultrasonic sensors, and L298N motor drivers.
- Integrated real-time image processing using OpenCV for signal detection and line following.
- ESP32 interfaced for Wi-Fi-based remote monitoring and Android app control.
- Contributed to a research paper draft for academic publishing.

Dec 2022 **Electrical Engineering Intern, Ardent Computech Pvt. Ltd., West Bengal, India**

- Developed an automated tunnel lighting system using PLC and ladder logic.
- Integrated LDR and ultrasonic sensors to detect ambient light and vehicle presence.
- Enhanced energy efficiency and tunnel safety through smart control logic.

Feb 2023 **Industrial Intern – Transmission & Distribution Dept., Bakreswar Thermal Power Plant (WBPDCL), West Bengal, India**

- Gained exposure to power generation, transmission, and substation systems.
- Observed operations of transformers, breakers, and circuit networks.
- Learned about load balancing and electrical safety procedures.

## Projects

Portable Solar Battery Charger and Inverter

- Designed a portable solar energy system for remote/emergency use.
- Converted 12V DC to 230V AC with inverter circuitry.
- Implemented overload and overcharge protection for safety.

## Education

2023 – 2026 **B.Tech in Electronics and Communication Engineering, [Institution Name], West Bengal** (Expected)

2021 – 2023 **Diploma in Electrical Engineering, Bose Polytechnic, West Bengal**

2018 – 2020 **Vocational Training in Electrical Engineering, Bose Polytechnic, West Bengal**

## Technical Skills

Programming & Tools C, C++, Python, Java, MATLAB, Arduino, OpenCV, Visual Studio Code

Hardware & Platforms PLC, Ultrasonic Sensors, VHDL, Xilinx, Robotics, Electrical Circuits  
Web/IoT Wi-Fi Integration, HTML, CSS, GPS, Embedded Systems

## Strengths

Innovation Able to conceptualize and implement new technical solutions.

Problem Solving Skilled in analyzing and resolving engineering challenges.

Communication Strong communication and teamwork capabilities.

Collaboration Comfortable working in both leadership and support roles.