

Pratyush Kundu

Electrical Engineering Undergraduate

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Profile

Electrical Engineering undergraduate with interest in **Robotics, Embedded Systems, Power Electronics and Power Systems, Digital and Analog Electronics, and Autonomous UAVs**. Hands-on experience in **embedded hardware integration, real-time control, sensing systems, and MATLAB-based modeling**.

Education

Alipurduar Government Engineering and Management College

2023 – 2027

Alipurduar, West Bengal, India

B.Tech in **Electrical Engineering** (MAKAUT) | WBJEE 2023 Qualified

Higher Secondary — WBCHSE (English Medium)

2020 – 2022

Siliguri, West Bengal, India

Siliguri Baradakanta Vidyapith — Science (82.2%)

Secondary — WBBSE (English Medium)

2015 – 2020

Jalpaiguri, West Bengal, India

Pranavananda Centenary Shikshayatan (83.7%)

Technical Skills

Programming: C, C++, Python | **Embedded Systems and Micro-controllers:** ESP32, Arduino, GPIO, PWM, UART, EEPROM | **Core skills:** Power Electronics, Motors, Rectifiers, Sensors and Transducers, Measuring Devices

Tools: MATLAB, Simulink, PSpice, Multisim | **Domains:** Robotics, UAVs, IoT, Embedded Systems, Power Electronics

Experience

Summer Intern — Jalpaiguri Government Engineering College

Jun–Jul 2025

- Control system modeling using **MATLAB/Simulink** and circuit simulation using **PSpice**.
- Practical exposure to transformers, motors, variac operation, and coil winding.
- Industrial observation of electrical systems at Caron Tea Factory.

RKVY Trainee — Indian Railways (Kolkata Metro)

Jul 2024

- Studied traction motors, substations, battery banks, and metro power distribution.
- Learned about the maintenance of Rolling Stock.

Projects

ASCEND — Autonomous UAV for GPS-Denied Exploration

Ongoing

- Vision-inertial navigation, energy-aware mission logic, and fail-safe autonomy.

S.A.N.K.A.L.P. — Signal-Activated Robotic Navigation System

[GitHub](#)

- Team Lead; ESP32-Arduino UART architecture, EEPROM state retention, sinusoidal PWM control.
- Finalist — Control Craft, SRIJAN 2K25, **Jadavpur University**.

IoT-Enabled Robotic Car with Obstacle Detection

[GitHub](#)

- ESP32-based robotic platform with ultrasonic sensing and autonomous obstacle avoidance.

Technical Interests

Autonomous Systems, UAV Navigation, Embedded Systems, Power Electronics Fundamentals, Sensors & Actuators, Industrial Electrical Systems, Robotics System Integration.

Certifications

IoT — NPTEL (IIT Kharagpur) Elite + Silver

Joy of Computing using Python — NPTEL (IIT Ropar) (Elite + Silver)

Problem Solving Through Programming in C — NPTEL (IIT Kharagpur)

Achievements and Co-Curricular Activities

Finalist in Robotics Contest at **Jadavpur University** | Event Organizer — **College Quiz** (Quiver) |

Content Moderator — **Siliguri Quiz Club** | Runners-up at **Quiz Premier League Season 10**

Finalist in Creative writing Contest at **Coochbehar Government Engineering College**