

# Pratyush Kundu

Electrical Engineering Undergraduate

Siliguri, West Bengal, India

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## Profile

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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

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**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

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**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

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**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

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**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

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

## Certifications

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**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

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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**