

SWAGATA GANGULY

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PROFESSIONAL SUMMARY

Electronics & Communication Engineering student focused on software development and system design. Skilled in building scalable full-stack applications using React, Next.js, Node.js, and TypeScript, with experience in databases (MongoDB, MySQL, PostgreSQL) and cloud deployment (Firebase, Supabase, Vercel). Proficient in API development, real-time systems, and writing efficient, production-ready code.

TECHNICAL SKILLS

- **Languages:** C, C++, Java, Python, HTML5, CSS3, JavaScript, SQL
 - **Frameworks & Libraries:** React.js, Node.js, Next.js, Flask, Bootstrap, Tailwind CSS
 - **IoT & Embedded:** Arduino IDE, PlatformIO, ESP32/ESP8266, MQTT,
 - **Tools:** Git/GitHub, VS Code, Postman, Firebase, Proteus (Simulation), Figma
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TECHNICAL PROJECTS

Healthcare+ | Patient Management Ecosystem

- **Tech Stack:** React, Firebase, Tailwind CSS
- Architected a high-performance patient management dApp prioritizing data privacy and minimalist UI/UX.
- Implemented **Firebase Authentication** and real-time Firestore synchronization for seamless record management.
- Designed an intuitive dashboard using a professional deep teal/mint palette, enhancing navigation by 30%.

Microgrid Energy Monitoring System

- **Tech Stack:** Python, MQTT, ESP32, Data Analytics
- Developed an end-to-end IoT solution to monitor voltage, current, and power consumption across a local grid.

- Utilized **MQTT protocol** for low-power, high-speed data transmission to a centralized Flask-based server.
- Integrated real-time analytics to detect anomalies, leading to 15% better load balancing insights.

Manually Controlled Racing Robot

- **Tech Stack:** C++, Arduino, Embedded Systems
 - Engineered a high-torque robotic chassis with a custom control system for precision high-speed maneuvers.
 - Programmed firmware in **C++** for PWM-based motor control, reducing execution latency by 20%.
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LEADERSHIP & COMMUNITY INVOLVEMENT

GDG on Campus RCCIIT

Web3 and Blockchain Associate | Oct 2025 – Present
Member | Aug 2024 – Sep 2025

IgniteX Club RCCIIT

Blockchain Associate | Dec 2025 – Present
Student Member | Aug 2024 – Nov 2025

RCCTechz

PR & Outreach Associate | Nov 2025 – Present
Member | Aug 2024 – Nov 2025

EDUCATION

- **B.Tech in Electronics & Communication Engineering** (2024 – 2028)
- RCC Institute of Information Technology (RCCIIT), Kolkata
- **Key Achievement:** 3rd Place Winner, ShowcaseX x TechSprint Hackathon. Winner : Robostorm , SRIJAN'25