

Saurajit Das

Kolkata , West Bengal

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EDUCATION

Indian Institute of Engineering Science and Technology (IEST), Shibpur – Howrah, West Bengal Bachelor of Technology (B.Tech) in Mechanical Engineering | 2022 – 2026 |

CGPA: 7.2/10

Shri Ramkrishna Sikshalaya, Howrah, West Bengal

West Bengal Council of Higher Secondary Education

(WBCHSE) **Class XII (Science – PCMC) | 2021 | 80.6%**

West Bengal Board of Secondary Education

(WBBSE) **Class X | 2019 | 87.14%**

EXPERIENCE

Summer Internship – Mechatronics Lab, Jadavpur University May 2025 – July 2025

Supervisor: Prof. Ranjit Kumar Barai, Department of Electrical Engineering

- Designed and developed a custom servo motor using a DC motor and AS5600 magnetic encoder for modular robotic joints. Implemented closed-loop motor control on ESP32 using PlatformIO. Achieved precise angle and RPM control using PID algorithms. Designed spur gear mechanisms and encoder mounting fixtures using Fusion 360. Integrated components into a complete electromechanical system. Enabled remote monitoring.

UG Researcher - Department of Aerospace Engineering and Applied Mechanics Jan 2024 – Jan 2025

- Worked on the design and analysis of vascular implants, focusing on mechanical behavior, biocompatibility considerations, and deployment constraints. Assisted in CAD modeling, basic simulations, and design optimization to improve implant performance and reliability.

SAE BAJA – Team SLICKWHEELS

May 2024 – Jan 2025

- Member of the Transmission Team, contributing to drivetrain analysis and mechanical works.

PROJECTS

Major Project – Lower Limb Exoskeleton Knee Joint August 2025 – June 2026

Under the guidance of Prof. Bidyut Pal and Prof. Anirban Nag

- Design and optimization of a lower limb knee joint exoskeleton based on a cross four-bar linkage mechanism.
- Responsible for motor control, sensor integration, and control system development.
- Developing strategies for joint angle sensing and actuator control relevant to gait motion.

Minor Project – Life Cycle Analysis of Electric and Hydrogen Vehicles October - November 2023

Under the guidance of Prof. Bijan Kumar Mondal

- Conducted a comparative life cycle analysis of Battery Electric Vehicles (BEVs) and Hydrogen Fuel Cell Vehicles (HFCVs). Analyzed technology, refueling systems, cost, environmental impact, and market readiness.

TECHNICAL SKILLS

CAD & Simulation: Fusion 360, SolidWorks, ANSYS Workbench. **Programming:** MATLAB, C/C++, Python. **Modeling & Control:** Simulink, Simscape. **IoT Platforms:** Blynk, Arduino IoT.

Embedded Systems: Arduino, ESP32, FreeRTOS, 12C. **Sensors & Actuators:** Sensors, Encoders, DC Motors, Servo Motors.