



**Indrajeet Mohite**  
**Energy Science and Engineering**  
**Indian Institute of Technology, Bombay**

**16D170010**  
**Dual Degree (B.Tech. + M.Tech.)**  
**Gender: Male**  
**DOB: 22-07-1998**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2021	null

Pursuing **Minor** in the Department of **Electrical Engineering**

### INTERNATIONAL EXPERIENCE

**MURATA, JAPAN** | Energy Storage System Department (ESS)

[May' 19 – Jul' 19]

Proposed an optimum configuration of a 1.3 MWh capacity Energy Storage System for 1200 kVA back-up

Approach	<ul style="list-style-type: none"> <li>Studied the <b>Design concept</b> of Batteries and Battery Management System (BMS) developed by Murata</li> <li>Studied Voltage vs SoC curves at various current levels by performing Charge-Discharge tests on Batteries</li> <li>Assembled High Voltage Battery Racks and conducted <b>Internal Impedance tests</b> and various <b>Safety checks</b></li> </ul>
Impact	<ul style="list-style-type: none"> <li>Performed technical, financial <b>Best Value Option Analysis</b> among feasible Battery and BMS configurations</li> <li>Designed peripheral Low Voltage circuitry to operate <b>Control functions</b> and Battery Management Hub</li> <li>Selected components like DC Circuit Breaker and Fuse to ensure <b>Surge current</b> and <b>Short-Circuit safety</b></li> </ul>

### POSITIONS OF RESPONSIBILITY

**CHIEF ELECTRICAL** | IIT Bombay Racing

[May' 19 – Jul' 20]

Led a **4-tier** cross-functional team of 70+ students to build an **electric vehicle** for **Formula Student (FS)**, an **international** student race-car design competition at **Silverstone**. Ranked **4<sup>th</sup> overall** at FS UK 2020 among **73 teams** from **23 countries**

Leadership	<ul style="list-style-type: none"> <li><b>Spearheaded</b> the Electrical division to achieve Reliability and Serviceability of vehicle at minimal cost</li> <li><b>Head</b> of Powertrain, Battery Management System (BMS), System Integration, High Voltage (HV) Safety</li> <li><b>Led</b> the Powertrain Division at FSUK '20 <b>Engineering Design Event</b>, Secured <b>1<sup>st</sup></b> position among <b>73 teams</b></li> </ul>
Management	<ul style="list-style-type: none"> <li>Employed Gantt Charts to manage <b>Timelines</b> and short-term <b>Targets</b> for 20 membered Electrical team</li> <li><b>Point of Contact</b> for interactions with sponsors – <i>Analog Devices, TE Connectivity, PCB Power, Bender</i></li> <li>Drafted Failure Modes and Effects Analysis (<b>FMEA</b>) document to identify required <b>Risk Management</b></li> </ul>
Initiatives	<ul style="list-style-type: none"> <li>Achieved <b>10% improvement</b> in Cooling of the Battery pack and <b>36% faster</b> sensor assembly time by designing a new cell connection technique using PCBs instead of lower Aluminum busbars</li> <li>Reduced the <b>manufacturing time</b> by <b>&gt;50%</b> by revamping the Wiring Harness designing methodology</li> <li>Incorporated Online State-of-Charge (<b>SoC</b>) estimation to monitor Battery percentage and Cell health</li> </ul>

**SENIOR DESIGN ENGINEER** | IIT Bombay Racing

[May' 18 – Apr' 19]

Won the prestigious FS Award worth **£3000** based on overall team progress (Awarded to 8 out of 118 teams)

- Designed an electric unit for controlling 40 kW BLDC Motors ensuring **Fail-Safe** mechanisms in critical circuitry
- Managed **Induction Program** for **50+** freshmen, **conducted sessions** on Batteries with projects on Eagle PCB designer
- Designed a charging setup for High Voltage Li-ion Battery incorporating BMS and Insulation Safety circuits

**JUNIOR DESIGN ENGINEER** | IIT Bombay Racing

[May' 17 – Apr' 18]

- Contributed to designing and **debugging** of PCBs for Battery Control Unit along with exhaustive testing protocol
- Performed controlled Charging and Discharging of 22Ah capacity 403V Li-ion battery pack using safety tools

**DEPARTMENT ACADEMIC MENTOR** | Energy Department, IIT Bombay

[Apr' 18 – May' 19]

- Among 10 members chosen from 35 applicants based on **overall performance**, **ethics**, and **peer review**
- Mentored 5 sophomores on their academic concerns in coordination with their faculty advisor

**TECHFEST** | IIT Bombay's Annual Technical Festival

[Dec' 16]

- Volunteered for the **social initiative** Can U Really Escape Diabetes (CURED) campaign aimed at spreading awareness at 150+ centres all around Mumbai recording 35,000+ sugar level check-ups in a single day
- Registered 700+ pledges for **Guinness Book** for free diabetes check-up at a single booth in 10 hours

### EXTRA CURRICULARS

Scholastic	<ul style="list-style-type: none"> <li>Awarded <b>AP</b> grade in Energy Systems Modelling and Analysis course for Outstanding Performance</li> <li>Recipient of <b>KVPY</b> scholarship from IISc Bangalore with <b>All India Rank 577</b> out of 50,000 candidates</li> </ul>
Sports	<ul style="list-style-type: none"> <li>Completed training in Dramatics and Volleyball as part of National Sports Organization</li> <li>Represented Hostel in Crossy <b>General Championship</b></li> </ul>

*Scholastic achievements and extracurricular activities are not verified by the Placement Cell*