



EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2025	M.TECH Dual Degree 5Y	IIT Kharagpur	8.68 / 10
2021	CBSE Boards	Apeejay School	96.4%
2019	CBSE Boards	Apeejay School	95.8%

INTERNSHIPS

Bag-mode breakup of droplet in a uniform air-flow May'23 - Jul'23

Prof :Sudipto Mukhopadhyay | Department of Mechanical Engineering | IIT Jodhpur

- Investigated **droplet breakup** by studying the influence of **Weber's number**, specifically on Bag-mode breakup
- Compiled and executed simulations using **Basilisk C**, to analyze the complex behavior of droplets
- Analyzed simulation results to establish correlations between **Weber's number**, **CFL**, and **Poisson's tolerance**

Custom solver in OpenFOAM

May'24 - Jul'24

Prof :Raja Banerjee | Department of Mechanical Engineering | IIT Hyderabad

- Developed a custom solver in **OpenFOAM** using the default InterIsoFoam and InterFoam solver using **AMR**
- Particle tracking using **VOF method** coupled with **Lagrangian method** to get more **accurate simulation**
- Validation of custom solver, using standard experiments like **dam-break problem**, **vortex stretching**

PROJECTS

Fitness Band | Coursework Project

May'22 - Jun'22

Prof : Cheruvu Siva Kumar | Department of Mechanical Engineering | IIT Kharagpur

- Developed a **Fitness Band** using Arduino Uno and Pulse Sensor, enabling **measurement of heart-beat**
- Conducted analysis on the impact of various factors, such as **age**, **exercise**, and **feeding habits**
- Better understanding of the **physiological responses** of heart-beat to different influences

Hydrophobic surfaces on prolonged immersion in water | Self Project

Mar'23 - Apr'23

- Investigated the **hydrophobicity of surfaces** in safeguarding structures such as **ships**, **submarines**, **dams**
- Conducted an extensive review of factors leading to the **loss of hydrophobicity**, **bio-fouling by microorganisms**
- Performed a case study on two specific applications: **ships and pipes**, evaluating the of hydrophobic coatings

SKILLS AND EXPERTISE

Skills: CFD simulations in Basilisk C, Fluid Mechanics, Heat Transfer, Two-phase flow, FreeCAD

Programming Languages/Tools: C, C++, SolidWorks, Matlab, OpenFoam, Python, LaTeX, JavaScript

COURSEWORK INFORMATION

Mechanical Core :Thermo-Fluid Science | Thermal Physics | Heat Transfer | Transport in Porous Media | Mechanics of Solids (Theory and Lab) | Casting, Forming and Welding | Materials Engineering | Design of Machine Elements | Machine Tools and Machining | Non Traditional Manufacturing Processes

Mathematics :Probability and Statistics | Transform Calculus | Linear Algebra, Numerical and Complex Analysis

Computer Science :Programming and Data Structures (Theory and Lab)

POSITIONS OF RESPONSIBILITY

Core Organising Team Member | Spring Fest 2023 | IIT Kharagpur

- Co-headed a team of **47 Associate Members**, expanding the reach of the fest to **800+ colleges**
- Published **250+ media articles**, with **124% YoY** increase in participation from West Bengal in over 150 colleges
- Solely responsible for the conduction a Genre of Food Fest which included **Top It To Win It**, and **Chefs Corner**
- Brought participants in **Business and Tech Quiz** with **100% YoY** increase in participation
- Coordinated sponsorship drive in Kolkata raising **INR 65K** and raised **INR 85K** in local sponsorship drive

AWARDS AND ACHIEVEMENTS

- National topper in **Mathematics** in Secondary School Examination conducted by **CBSE** Class 10 Boards
- Represented the school and positioned **3rd** in **Mathemazic** organized by **Mio Amore** in state level competition
- Secured **Bronze medal** in **General Quiz** in Inter-Hall Social and Cultural Championship 2024, **IIT Kharagpur**

EXTRA CURRICULAR ACTIVITIES

- Student Volunteer at **Health and Fitness (HNF)** IIT KHARAGPUR and actively involved in various **Social activities**
- Won **Gold Medal** in Rangoli for Vidyasagar Hall of Residence, IIT Kharagpur in the **Inter-Hall Competition**
- Participated in **ChemQuest**, a case-study competition, in the **General Championship 2023**
- Participated in **Intra-Hall Cricket Chamionship** in Vidyasagar Hall of Residence, IIT Kharagpur