



# UDAY SUTRADHAR | 22MT10060

METALLURGICAL & MATERIALS ENGG. (B.TECH 4Year)

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## EDUCATION

Degree/Exam	Institute	Year	CGPA / Percentage
B.Tech in Metallurgical and Materials Engineering	Indian Institute of Technology, Kharagpur	2022-2026	8.25 /10
Higher Secondary Education (C.B.S.E)	Sarada Vidya Mandir, Raiganj	2021	85.2%
Secondary Education (C.B.S.E)	Sarada Vidya Mandir, Raiganj	2019	87.6%

## INTERNSHIPS

- Research Intern | Indian Institute of Technology Kharagpur** [May'24 - Present]  
*Under the guidance of Prof. Pabitra Mitra, Computer Science and Engineering*
- Conducted Research on customer segmentation of scrapped IHCL instagram dataset using swarm intelligence approach
  - Collected **5,000+ data** from diverse instagram accounts, facilitating subsequent **scrapping** of individual accounts
  - Applied **Recency, Frequency and Monetary (RFM)** analysis for classification based on their engagement level on the pages
  - Implemented **Modern Social Spider Optimization (MSSO)** algorithm for classification based on their engagement level on the pages
  - Applied **SelfOrganizing Neural Network (SONN)** for dynamic segmentation, developing a **Deep Neural Network (DNN)** for classification
- Research Intern | Indian Institute of Technology Bombay** [Apr'24 - Dec'24]  
*Under the guidance of Prof. Biplab Banerjee, Computer Science and Engineering*
- Conducted research on **Vision Transformer (ViT)** for **advanced image recognition**
  - Implemented **Masked Autoencoder (MAE)** to enhance model performance for efficient and improved feature representation
  - Utilized **Python, Pandas, and NumPy** for data handling and optimization modeling
- Research Intern | Indian Institute of Management Mumbai** [Feb'24 - Aug'24]  
*Under the guidance of Prof. Jasashwi Mandal, Computer Science and Engineering*
- Utilized various ML techniques such as **supervised, unsupervised, and reinforcement** learning to address research objective
  - Worked with large datasets to train and evaluate ML models using Python libraries such as **NumPy, TensorFlow, PyTorch, and scikit-learn**
  - Analyzed and interpreted experimental results to draw meaningful conclusions and make recommendations for further research

## PROJECTS

- MULTIPLE DISEASE PREDICTOR | Self Project** [Jan'24 - Feb'24]
- Developed a predictive model for **multiple diseases** using **machine learning** algorithms
  - Gathered **diverse datasets** for training and testing, Identified crucial **features** for **disease prediction** using feature importance analysis
  - Implemented and fine-tuned **hyperparameters** for optimal performance, Assessed model **accuracy, precision, recall, and F1 score**
- TWITTER CLONE | Self Project** [Dec'23 - Jan'24]
- Implemented the user interface using **React JS**, providing an **intuitive** and **responsive** design
  - Designed a **polished** and **professional** appearance using **Tailwind CSS**, emphasizing a clean and modern aesthetic
  - Utilized **MongoDB** for efficient **data storage** and **retrieval**, ensuring seamless user interactions
  - Deployed the website with focus on user experience, functionality, showcasing proficiency in **React JS, MongoDB, and Tailwind CSS**
- E-COMMERCE WEBSITE | Self Project** [Feb'24 - Mar'24]
- Utilized **React JS** for **frontend**, **MongoDB** for **database management**, and **Express & Node JS** for **backend** development
  - Integrated **MongoDB** to organize and manage product information and user data, optimizing **retrieval** and **storage** processes
  - Implemented **authentication mechanisms** to ensure secure user accounts and personalized experiences
  - Deployed the website with focus on user experience, functionality, showing proficiency in **React JS, MongoDB, and Express & Node JS**

## SKILLS

Languages: C, C++, Python, HTML5, CSS3, JavaScript

Frameworks, Libraries and Tools: Arduino, SolidWorks, Figma, Fusion360, git, Pandas, NumPy, Django, ReactJS, Express & NodeJS

## COURSEWORKS

Programming and Data Structures | Programming and Data Structures Laboratory | Advanced Calculus | Linear Algebra, Numerical and Complex Analysis | Transform Calculus | Probability and Statistics

## AWARDS AND ACHIEVEMENTS

- Secured **AIR 1480 in SC Category** in **JEE ADVANCED - 2022**, one of the world's most competitive engineering entrance exams
- Secured **General Merit Rank (GMR) of 190** in **WBJEE 22** among 1.2 lakhs WBJEE aspirants in WBJEE - 2022
- Received **Academic Excellence Award** from **Chief Minister of West Bengal** for excellent performance in WBJEE - 2022

## EXTRA CURRICULAR ACTIVITIES

- National Cultural Academy (NCA), Vocals, IIT Kharagpur** [Nov'22-Apr'24]
- Engaged in an experiential learning program to develop creative skill through high-quality training in **Classical Music**
  - Performed **chorus songs** in various events organized by the **Academy of Classical and Folk Arts** of IIT Kharagpur
- Groups & Western Vocals | General Championship (Social & Cultural) | IIT Kharagpur**
- Achieved **Gold** being the **vocalist** of the **Groups** and **captain** of the **Western Vocals** event during the academic year **2024 - 2025**

## POSITION OF RESPONSIBILITY

- Captain | Western Vocals | Azad Hall of Residence | IIT Kharagpur** [Aug'24 - Apr'25]
- Led the team to a **Gold Medal** in the Western Vocals category of Social & Cultural at the General Championship

