



# 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 **WBEE 22** among 1.2 lakhs WBEE aspirants in WBEE - 2022
- Received **Academic Excellence Award** from **Chief Minister of West Bengal** for excellent performance in WBEE - 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

