



Debashish Das
Metallurgical Engineering and Materials Science
Indian Institute of Technology Bombay

22B2463
B.Tech.
Gender: Male
DOB: 25/07/2005

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2026	
Intermediate	CBSE	Vidya Sagar School	2022	95.20%
Matriculation	CBSE	BVB Vidyashram	2020	91.20%

Pursuing *Dual Minor Degree in Artificial Intelligence & Data Science and Computer Science*

Scholastic Achievements

- Achieved top grades (**AA/AB**) in **18 courses** at IIT Bombay across the first **five** semesters [['22 - '24](#)]
- Attained **95.20%** percentile in JEE Mains examination among approximately **1.2 Million** students [[2022](#)]
- Amongst the **top 1%** in JEE Advanced 2022 out of **150,000+** candidates across the nation [[2022](#)]

Professional Experience

Data Science Intern — Mcaffeine

[[Dec'24-Jan'25](#)]

Received a *Letter of Recommendation* for automating processes and optimizing efficiency for Finance team

- Automated D2C reconciliation with Python, reducing workload by **50%** and quick identification of **10+** issues
- Streamlined data from **5+** sources like Flipkart and Amazon to improve accuracy across **100k+** transactions
- Optimized inventory and GST management using Unicommerce and **10+** systems like Shopify and Gokwik

Software Developer Intern — National Disease Modelling Consortium

[[Dec'24-Jan'25](#)]

The *National Disease Modelling Consortium* is a unique national effort to develop India-specific models of diseases

- Developed a Streamlit dashboard to visualize and compare disease data with year-wise, disease-specific maps
- Preprocessed disease and GeoJSON datasets to create dynamic choropleth maps using Plotly and Seaborn
- Enhanced the UX with customizable color scales for better accessibility and personalized data analysis

Key Projects

Learning Dark Knowledge from Teacher | Course Project | CS 419 | Guide: Prof. Abir De [[Mar'24-Apr'24](#)]

Explored *Knowledge Distillation* to boost model accuracy, analyzing model size and teacher performance gaps

- Developed **ResNet18** teacher for CIFAR10, applied knowledge distillation to enhance student performance
- ResNet achieves a teacher accuracy of **79%**, while Deep NN has a student accuracy of **70.89%** with CD+KD
- ResNet18's** parameter advantage didn't improve CIFAR10 knowledge distillation over **custom DeepNN**

Credit Card Fraud Detection | Self Project

[[Oct'23 - Sep'23](#)]

Predicted the possibility of fraudulent credit card client using the famous *Kaggle Dataset*

- Conducted in-depth **EDA** on a credit card fraud detection dataset consisting of **31** different parameters
- Addressed the **class imbalance** problem by applying the **SMOTE** Technique to generate artificial data
- Conducted comprehensive analysis of models like **Logistic Regression**, **SVM**, **KNN**, and **Decision Trees**

Chemistry DAMP Blogs | Student Mentor Program |

[[Aug'24 - Oct'24](#)]

Developed a platform providing students with resources, including course reviews, internships, and opportunities

- Developed a full-stack Chemistry DAMP Blog using the **MERN** stack with responsive and dynamic design
- Created **RESTful APIs** with Express.js for efficient data retrieval and scalable backend communication
- Integrated **Cloudinary** for optimized image hosting, with pagination and lazy loading to boost performance

Automated Flappy Bird | Self Project

[[Nov'23 - Dec'23](#)]

Developed a machine learning model for the *Flappy Bird* game

- Designed Flappy Bird Game with necessary game mechanics and controls using **pygame python** library
- Implemented **NEAT(Neuroevolution of Augmenting Topologies)** algorithm to automate Flappy Bird
- Developed a NEAT model with a bird population of **100** achieving training in fewer than **5** generations

ISMP Peer Review Portal | Student Mentor Program

[[May'24 - Jun'24](#)]

Designed a website for selecting Institute Student Mentors, with an *admin dashboard*

- Developed a **Peer Review** portal for ISMP applicants, enhancing efficiency and streamlining the process
- Utilized a Python script to generate **60+** recommended applicants out of a pool of **over 400** for each reviewer
- Created the website using **React.js**, **Node.js** and admin portal with **Recharts.js** for data visualization

Algorithmic Trading | Math and Physics Club, IIT Bombay [May'24 - Present]

Summer Of Science 2024 | Learned the basics of the stock market, algorithmic trading, and derivatives

- Acquired knowledge of stock markets, investing, market participants, order book, and candlestick analysis.
- Conducted fundamental analysis with financial ratios, company documents, and used technical indicators

Face Detection and Volume Control with OpenCV | Self Project [Feb'24 - Mar'24]

Built Face, Hand and Pose detection model based on frontal face database using Mediapipe

- Developed a Python script to take live video input from a camera and draw a square on it using **OpenCV**
- Created a HandDetector class that located and returned the position of **20** separate landmarks on the palm
- Imported the Class module as object and integrated it in a system that uses finger gestures to control volume

Remote Controlled Submarine | Institute Technical Council | IIT Bombay [May'23 - Aug'23]

Institute Technical Summer Projects | Led a team of four to build an IoT-enabled underwater vehicle

- **Executed** a mechanism for altering direction and depth using **multiple pumps** with high effectiveness
- Implemented **ESP32** as the receiver **webserver**, incorporating sliders for control over steering and speed

Positions of Responsibility

Web Nominee | Student Mentor Program | IIT Bombay [May'24 - Present]

Student Mentor Program aims to foster mentorship and positive interaction between senior and junior students

- Spearheading web-based initiatives and overseeing SMP website maintenance and updates as Web Nominee
- Developing and maintaining web applications of SMP using **ReactJS, PHP, SQL, and Bootstrap CSS**

Department Academic Mentor | Student Mentor Program | IIT Bombay [Jun'24 - Present]

*Part of a **29 member** team selected from **89** applicants based on a stringent interview and peer reviews*

- Mentoring **6** sophomores from the MEMS department on a one-to-one basis on various aspects of their life
- Part of the Design subgroup, revamping the blog, developed posters, presentation, logos and merchandise

Competitions and LYP Coordinator | Mood Indigo | IIT Bombay [Jun'23 - Dec'23]

Asia's largest college cultural festival | Budget: **INR 80+ million** | **1,46,000+** footfall | **240+** events

- Conducted nationwide eliminations across **15+** cities, collaborating with fest committees for participation
- Maintained clear communication with **200+** Cultural Heads, offering support throughout the competitions

Technical Skills

- **Languages:** Python, C++, LaTeX, MATLAB, Javascript, C, PHP, SQL
- **Development:** HTML, CSS, Bootstrap CSS, NodeJS, ReactJS, Postman, MySQL, MongoDB, Git
- **AI & Machine Learning:** TensorFlow, PyTorch, OpenCV, Scikit-Learn, NumPy, Pandas, Matplotlib
- **Software:** Fusion 360, Github, Jupyter, Canva, Figma, Visual Studio Code, Sublime Text

Key Courses Undertaken

- **Computer Science:** Computer Programming, Introduction to Machine Learning, Logic in CS, AI & DS
- **Material Science Engineering:** Structure of Materials, Process Kinetics and Transport, Thermodynamics of Materials, Numerical Methods for Materials, Electrochemistry of materials and Its Applications
- **Web Development:** Complete Web Development BootCamp (Full Stack) by Dr. Angela Yu on Udemy

Extra-Curricular Activities

Sports	<ul style="list-style-type: none">• Won the Inter Hostel Kho-Kho General Championship (Boys) out of 10+ teams• Successfully completed year-long Athletics training program as part of NSO course• Took part in Athletics General Championship with a time of 12.17 secs in 100m
Culturals	<ul style="list-style-type: none">• Adept keyboardist with over 12 years experience with excellent musical proficiency• Won Best Performance in Freshers Got Talent in Hostel 1's Yearly Fest - Carnival• Completed 3 Trinity College London electronic keyboard grades, topping 2 of 3
Miscellaneous	<ul style="list-style-type: none">• Effectively completed Finance 101 bootcamp under NTSS in Learners' Space• Served as a mentor for a 4-member team in the Institute Technical Summer Project