SCHOLASTIC ACHIEVEMENTS

- Achieved a notable of **99.35 percentile** in **JEE-Mains** among **1 million** aspirants all over the country *2022*
- Attained **93** All India Percentile in the **JEE ADVANCED** examination among **0.15 million** candidates *2022*
- Secured SPI of **9.4+** in fourth semester, got **AA** grade in **4 out of 7** courses, showing exceptional performance *2024*

KEY PROJECTS

Google Photos classifier | *Summer of Code, Web and Coding Club, IIT Bombay*   *May'24 — Present*
- Implemented ML models, **CNNs** for face and hand detection using **TensorFlow, Keras, OpenCV**, and **Dlib HOG**
- Developed a user-friendly interface for the project using the **Tkinter**, ensuring seamless interaction and functionality
- Streamlined the deployment by converting Python scripts to executables using **PyInstaller, cx_Freeze**, and **py2exe**

Machine Learning | *Learner's Space, Web and Coding Club, IIT Bombay*   *July'24 — Present*
- Learned to implement and evaluate multiple **Classifiers**, achieving differential accuracy in varying data environments
- Implementing and using **Numpy**, **Pandas**, **Matplotlib** along with **Neural Networks** and applying it into models
- Utilizing **YOLO** and the **Convolutional Neural Network** in order to perform **Deep Learning** for classification

Website Development | *Learner's Space, Web and Coding Club, IIT Bombay*   *July'24 — Present*
- Created a responsive and interactive **React** application for note-taking with features to **create**, **edit** and **delete** notes
- Integrated a customizable **dark/light** mode toggle using **React** state hooks and **Bootstrap CSS** for dynamic theming
- Utilizing Bootstrap's flexible responsive **grid** system to ensure seamless usability and design across the different devices

Face Mask Detection Using Convolutional Neural Networks | *Self-Project, Deep Learning*   *Jun'24*
- Downloaded the face mask dataset from Kaggle and converted the images to numpy arrays using **PIL** and **NumPy**
- Resized all images to **128x128 pixels**, labeled images with masks as **1** and without masks as **0**, and combined labels
- Split data into training and testing sets using **Sci-Kit Learn**, and then scaled the images for better model performance
- Built a **CNN** using **TensorFlow** and **Keras**, with Conv2D, MaxPooling2D, Dense, and Dropout layers for predictions

Sentimental Analysis | *Self Project, Machine Learning*   *Jun'24*
- Used **Logistic Regression** for sentiment analysis, distinguishing positive and negative tweets with **77.8%** accuracy
- Utilized **NLTK** for text preprocessing (including stemming, stopwords), and **TfidfVectorizer** for numerical conversion
- Downloaded the sentiment140 dataset via **Kaggle API**, subsequently processed it using **Pandas** for model training
- Saved the trained Logistic Regression model using **Pickle**, facilitating quick and efficient future sentiment predictions

Movie Recommendation System | *Self Project, Machine Learning*   *May'24*
- Utilized a movie dataset, selecting relevant features and efficiently handling any missing values during pre-processing
- Executed **TF-IDF Vectorization** to convert text features into numerical vectors and used difflib to find close matches
- Used **Sklearn's cosine-similarity** to recommend the movies by matching and ranking user input with similar titles

Fake News Detection |*Self Project, Machine Learning*   *May'24*
- Employed **NLTK** for the text preprocessing, stemming and stopword removal, and used **TF-IDF** for feature extraction
- Applied **Logistic Regression** for the detection of fake news on the statement dataset, achieving an accuracy of **96%**
- Used **Decision Tree Classifier** for the detection of fake news on the same dataset, resulting in an accuracy of **98%**
- Deployed **Random Forest Classifier** on the same dataset, achieving accuracy of **99%** to improve fake news detection

Sign Language Detection | *Self Project, Machine Learning*   *May'24*
- Developed the real-time **hand gesture** system using **OpenCV and cvzone**, ensuring accurate image preprocessing
- Implemented a pre-trained **ML model** for hand gesture classification, achieving high accuracy in real-time applications
- Demonstrated expertise in computer vision with in **OpenCV**, **cvzone**, and ML integration for the practical applications

OTHER PROJECTS

Remote Control Boat | *MM221 Course Project, Prof. Tanushree Choudhury*   *Aug'23 — Nov'23*
- Constructed an RC boat using the **Arduino Uno,a propeller, a rudder, a servo motor, and a DC motor** etc
- Utilized **Arduino IDE** to develop the customized firmware, enabling the precise control of **boat navigation** systems
- Crafted sophisticated motor and **servo control** algorithms to enable precise speed regulation and steering of the robot

Line Following Robot | *Course Projec, MS101 Makerspace, Prof. Tanmay K. Bhandakkar*   *Feb'23*
- Designed a robotic system employing **Infrared sensors** for the precise ground-level **line detection** and navigation
- The robot includes an **unloading** mechanism with **servo motor** control, enhancing cargo handling and distribution
- Coordinated the comprehensive development of the bot, overseeing the entire process from its initial design to execution

Fabrication Project | *Course Project, MM 104, Prof. Parag Bhargava*   *Feb'23*
- The project was focused on developing an **eco-friendly** composite material, collaborating with a team of 14 members
- Used advanced machinery and equipment to shred collected **tetrapaks** into small particles, which can then be pressed
- Applying high-temperature and pressure conditions for pressing, demonstrating hands-on application of engg principles

POSITIONS OF RESPONSIBILITY

Department Academic Mentor | *Student Mentorship Program, IIT Bombay*   *Jun'24 — Present*
- Part of a **29** member team selected from **89** applicants based on a stringent interview and comprehensive peer reviews
- Mentoring **6** sophomores from the **MEMS** Department on a one-to-one basis on various important aspects of their life
- Part of the **Blog** subgroup in the **D-AMP** council, responsible for updating **MEMS D-AMP** blog with academic and career information for **300+** undergraduates, including internship and course reviews, projects, and research diaries

Coordinator | *Hospitality, Assistance, and Public Relations, Mood Indigo, IIT Bombay*   *May'23 — Dec'23*
- Interacted with **500+** cities **4000+** colleges and **15000+** registrations by signing off the deals with different colleges
- Actively worked in conducting multi cities and handle the **College Connect Program (CCP)** with high enthusiasm
- Volunteering in significantly enhancing the on-ground assistance and accommodation plan for the annual cultural fest

Institute Interview Coordinator | *Placement Cell, IIT Bombay*   *Dec'23*
- Successfully coordinated with a team of **250+** members for ensuring smooth interview conduction of **1800+** students
- Assisted in scheduling and managing placement tests for **15+** reputed firms and helped the students with their queries

TECHNICAL PROFICIENCY

Programming/Software:	C++, Python, HTML, CSS, Javascript, MATLAB, LaTeX, Git, MySQL
Libraries/Framework:	TensorFlow, NumPy, Scikit-learn, Keras, Matplotlib, OpenCV, React

COURSES UNDERTAKEN

Computer Science:	Computer Programming and Utilization, AI and Data Science, Computation Lab
Phy & Chem:	Classical Physics, Quantum Physics, Organic-Inorganic Chemistry, Physical Chemistry
Laboratory Work:	Makerspace Lab, Sensors-Measurement Lab, Design Lab, Physics Lab, Chemistry Lab
Mathematics:	Calculus I, Calculus II, Linear Algebra, Differential Equations, Numerical Methods
Metallurgical Engg:	Process Kinetics and Transport, Thermodynamics of Materials, Electrochemistry of Materials and its Applications, Structure of Materials.
Miscellaneous:	Remote Sensing and GIS Applications to Cryosphere, Economics, Design Thinking for Innovation, Introduction to Management, Introduction to Biology

EXTRACURRICULARS

Cultural	• Secured **1st** position in **Group Dance**, Freshers Nite, organised by IITB Dance club, Insync	*2023*
	• Completed a full **1** year course in **Kathak** under National Sports Organization, IIT Bombay	*2023*
Social	• Participated in **Versova Beach Cleanup Campaign** by **Abhyuday**, held on **14th** Jan	*2023*
Skills	• Completed **Excel and SQL** for Big Data Handling Course conducted by **Analytics Club**	*2023*
Misc	• Participated as top contender in SARCasm, IIT Bombay's largest crypt hunt by SARC	*2023*
	• Competed in **INSTI CHASE**, a treasure hunt competition, organised by **Abhyuday**, IITB	*2023*