Aditya Gupta
Mechanical Engineering
Indian Institute of Technology Bombay

200100011
B.Tech.
Gender: Male
DOB: 26/01/2002

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2024	
Intermediate	CBSE	Neerja Modi School, Jaipur	2020	98.20%
Matriculation	CBSE	Neerja Modi School, Jaipur	2018	92.80%

Pursuing a **Minor degree** in **Computer Science** under CSE Department, IIT Bombay [Present]

SCHOLASTIC ACHIEVEMENTS

- Secured an **All India Rank** of ___ in Joint Entrance Examination Advanced in a pool of 0.16 million candidates [2020]
- Procured an **All India Rank** of ___ among 1.1 million candidates in Joint Entrance Examination Main [2020]
- Recipient of the **KVPY Fellowship** administered by IISc, Bangalore having secured **All India Rank** [2020]
- Awarded **scholarship under NTS scheme (NTSE)** having secured **state rank 5** (Rajasthan) in stage 1 [2018]
- Received **2nd** prize at State Level camp in **Vidyarthi Vigyan Manthan** conducted by NCERT [2018]
- Bagged **state rank 24** in State Talent Search Examination **(STSE - Rajasthan)** organized by RBSE [2018]

PROFESSIONAL EXPERIENCE

Financial Analyst | Opulence Business Solutions [May '22 – July '22]

A one-stop consulting firm providing assistance to clients in the domain of investment banking and financial advisory services

Approach	• Conducted extensive primary and secondary research to build an overview structure of business deal • Analysed and combined research data to **create strategic insights and suggestions** for a range of clients • Worked as a primary member in helping startups and MSMEs raise capital by issuing debt or selling equity
Impact	• Involved in **offering recommendations to investors** regarding funding for potential startups and MSMEs • Facilitated the establishment of business relationships between various enterprises and global investors

KEY TECHNICAL PROJECTS

IITB Rocket Team [June '21 – Present]

An IN-SPACe recognized technical team of 30+ students working on design and development of high-power rocket, Adyant
The team works under the guidance of ISRO and IIT researchers, with the aim to participate in Spaceport America Cup 2023
Guides: Prof. Neeraj Kumbhakarna, Mechanical Engineering | Prof. Nagendra Kumar, Aerospace Engineering

Design Engineer | IITB Rocket Team

- Ideated the structural design for the rocket's avionics section using **Solidworks**, and examined its stability under pressure
- Analyzed flow patterns and performing FEM analysis over several conceivable designs using **ANSYS Structural & Fluent**
- Carried out multiple component analysis and drag estimations and simulating results, using **OpenRocket** software
- Conceptualized the design and fabricated a **GFRP** rocket nosecone, flat plate and body tube with quality assurance

Web Developer | IITB Rocket Team

- Working as part of a team to conceptualize and implement website design using **HTML, CSS and JavaScript**
- Enhanced user experience by making website fully responsive, adding several animations to improve overall aesthetics

Bitcoin Price Prediction Project | H9 Coding Fiesta [Feb '22 – Apr '22]

Hostel 9, IIT Bombay

- Inspected and evaluated data using analytical and statistical tools on historical bitcoin values to predict future prices
- Used various analysis and visualization libraries (like **NumPy, Pandas, Matplotlib**) for data modelling and processing
- Designed a neural network based regression model in the refined data-set using **Keras (TensorFlow) and Sklearn** libraries
- Achieved an RMSE value of about **2500** for the test dataset and a value of **1500** for the training set

Image Recognition | Self Project [Apr '22 – June '22]

- Developed and modified a L-layered neural network using **Scipy** and trained it to classify cat images from non-cat images
- Supplemented the dataset by applying various data augmentation techniques including reshaping original image vector
- Achieved an increase in accuracy from **72%** to **80%** on the same test set by modifying neural network from 2 to 4 layers

COVID-19 Web Portal | Research Project [Nov '21 – Present]

Prof. Sanjeeva Shrivastava, Department of Biosciences and Bioengineering, IIT Bombay

- Developed a global search portal for COVID-19, allowing researchers to search for proteomics data in COVID-19 patients
- Executing robust features such as visualization of proteomics data and maintaining local, global datasets using **SQL**
- Including optional features such as a real-time COVID-19 news feed and resources section using **web scraping**

Android Application Development | ITC   [Apr '21 – July '21]
Seasons of Code, Web & Coding club
- Designed an MVP **real-time Chatting application** for Android phones and a web application with requisite functionalities
- Developed features that allow users to chat with others, create chat groups, and add people to the same group
- Implemented **screen time monitoring** to limit app usage and dedicated **profile photo window** having necessary features
- Integrated Google's Firebase and Android studio to let app data be synced and changes visible to users in real-time

Student Design Experiment | Course Project   [Mar '22 – Apr' 22]
Prof. Krishna Jonnalagadda, Mechanical Engineering, IIT Bombay
- Devised a novel way of accurately **measuring deflections** in a transverse loaded cantilever beam using resistances
- Studied temperature vs resistivity for various materials and got deflections with acceptable limits for **87%** readings

POSITIONS OF RESPONSIBILITY

Department Academic Mentor | Student Mentorship Program, IIT Bombay   [May '22 – Present]
Selected out of 140+ applicants through interviews and peer reviews to build a support system for 240+ students
- Mentoring **6** sophomores to ensure they have a smooth transition into the academic and social life at IIT Bombay
- Part of a team responsible for ideating design and managing course reviews on the official Mechanical D-AMP website
- Contributing to initiatives that promote student interaction and smoothen their transition into the department

Airframe Sub-Division Head | IITB Rocket Team   [July '22 – Present]
- Co-leading a **team of 7 members** by maintaining the work-flow, planning budget and knowledge transfer
- Interviewed, recruited and mentored **3 freshmen** from a pool of **100+** UG applicants for IITB Rocket Team

Events and PR Co-ordinator | Entrepreneurship Cell (E-Cell), IIT Bombay   [Jan '22 – Apr' 22]
- Worked in a **100+** membered team, ideated and executed multiple publicity campaigns to increase reach of E-Summit
- Contacted startups and venture capitalists for participating in the event after creating an extensive database

Teaching Assistant | Engineering Drawing and Graphics   [Mar '22 – July '22]
Prof. B. Ravi, Mechanical Engineering, IIT Bombay
- Reviewed problem sets and examinations provided to over **600** freshmen over the course of the semester
- Prepared detailed solutions and mentored freshmen by solving course related doubts in weekly lab sessions

TECHNICAL SKILLS

Languages	C++, Python, MATLAB, HTML, CSS, PHP, SQL
Frameworks and Libraries	NumPy, Pandas, Matplotlib, Sklearn, Scipy, BeautifulSoup, Plotly
Tools	Octave, SolidWorks, ANSYS, OpenRocket, AutoCAD, Git, Linux, Wireshark

EXTRA CURRICULAR ACTIVITIES

Workshops and MOOCs	• Awarded for exceptional performance **in STEM-SCIENCE Workshop**	[2017]
	• Attended a week-long Bootcamp organized by Finance Club, IIT Bombay	[2022]
	• **Online courses (Coursera and EdX)**	
	○ Introduction to Android app Development - **CentraleSupelec, France**	[2021]
	○ Machine Learning – **Stanford University, USA**	[2022]
	○ Deep Learning and neural networks – **DeepLearning.AI**	[2022]
	○ Improving Deep Neural networks – **DeepLearning.AI**	[2022]
	○ Aerospace Materials and Structures – **Delft University, Netherlands**	[2021]
Culturals	• Participated in the **Summer Band Showcase,** Symphony Club-IIT Bombay	[2021]
	• Completed year long training for **Hindustani Classical Vocals** under National Sports Organization	[2021]
Sports	• Bagged **1st** prize in Sports Commentary Competition at Aavhan, IIT Bombay	[2021]
	• Part of a team which stood **first** in cricket Quiz among **100+** participant teams	[2021]

COURSES UNDERTAKEN

Mechanical Engineering	Engineering Graphics and Drawing, Solid Mechanics, Thermodynamics, Fluid Mechanics, Structural Materials, Strength of Materials, Manufacturing Process, Mechanical Measurements
Electrical Engineering	Introduction to Electrical and Electronics Circuits
Computer Science and Engineering	Computer Programming and Utilization, Computer Networks, Data Structures and Algorithms
Civil Engineering	Engineering Mechanics
Mathematics	Calculus, Linear Algebra, Differential Equations, Numerical Analysis
Physics	Quantum Physics and Application, Basics of Electricity & Magnetism
Chemistry	Organic & Inorganic Chemistry, Physical Chemistry
Miscellaneous	Biology, Economics
Labs	Solid Mechanics Lab, Fluid Mechanics Lab, Manufacturing Practice Lab