



Ananya Chavadhal
Aerospace Engineering
Indian Institute of Technology Bombay

22B0045
B.Tech.
Gender: Female
DOB: 09/11/2004

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2026	
Intermediate	CBSE	Poddar Brio International School	2022	97.00%
Matriculation	CBSE	Ashok Academy	2020	98.20%

Pursuing a **Minor degree** in the Department of **Computer Science and Engineering**, IIT Bombay

SCHOLASTIC ACHIEVEMENTS

- Conferred a Department Rank of **1**, among **70+** undergraduates in the Department of Aerospace Engineering (2024)
- Secured **99.92** percentile in Joint Entrance Examination - Mains among over **1 million** candidates (2022)
- Obtained **97.64** percentile in Joint Entrance Examination - Advanced among over **0.15 million** candidates (2022)
- Awarded the KVPY SA Fellowship, for securing an All India Rank of **897** among **50k+** candidates (2020)
- Obtained All India Rank **83** in the Under Graduate Entrance Examination, conducted by IIIT Hyderabad (2022)

WORK EXPERIENCE

Research Intern

(May' 24-Present)

Guide: Prof. Lixia Zhang | University of California Los Angeles

- Studied **Named Data Networks**, a new internet architecture that aims to replace the current TCP/IP architecture
- Explored usage of **data names** instead of host addresses to forward networking packets, for **broadcasting** efficiency
- Identified issues and suggested improvements for **NDN Workspace**, a **decentralized** collaborative editor on NDN

Software Engineering Intern | Verve Consulting

(Dec' 23-Jan' 24)

- Designed and developed frontend for **2** mobile apps to track the sales operations for an agricultural seedling business
- Used **React Native** and **Expo CLI** to develop a user-friendly app, to efficiently manage existing business operations
- Introduced features like **location tracking**, **user authentication** and **auto-filling** to digitise their work overall

Software Engineering Intern | Angoor AI

(Dec' 23-Jan' 24)

- Developed a website for an AI chatbot startup using **NextJS** and **Django**, maximising accessibility and outreach
- Created a user-centric interface using **Material UI** and **Minimals.cc**, for responsiveness and effortless navigation

KEY PROJECTS

Spotlight | Procter and Gamble

(May'24)

- Selected among the top **20** students from all over India to attend P&G's Information Technology Spotlight event
- Brainstormed a method to accurately measure **sales KPIs** in modern retail stores using **image recognition**
- Received a **Pre-Internship Offer** as a Software Engineering Intern from P&G for the summer of 2025

Mess Digitisation | DevCom, IIT Bombay

(Aug' 23-Present)

Introduced key updates to **Mess-i**, an app that digitises mess management for **10,000+** users in **10+** hostels daily

Mess Manager Login

- Led a team of 4 to implement a login system for authorisation and session management using **Flask** and **Angular**
- Using **Flask JWT Extended** generated **access tokens** and **refresh tokens** stored in secure **HTTPOnly** cookies
- This enabled non-IITB LDAP users to access the website, boosting the user-base of the online rebates feature to **2x**

Backend Configuration and Testing

- Used **Flask** to fetch **configuration** directly from **MongoDB**, enabling immediate updation of backend configuration
- Implemented **logging** and **unit testing** using **MagicMock** to simplify the interface's **maintenance** and **debugging**

Remote MongoDB Backups

- Used **Google Drive API** to remotely upload MongoDB backups and published it as an open-source on **PyPI**
- Implemented **resumable uploads** and **rotating file handlers** to manage storage and internet connectivity issues

Mess Stats and Guest Entry

- Implemented **mess statistics** to minimize food wastage, providing insights into food consumption of **10+** hostels
- Launched an online **guest entry system**, thus eliminating paper work involving guests eating in the mess

Indian Census Analysis | Course Project

(May' 24)

Guide: Prof. Prabhu Ramachandran

- Analysed and visually represented the Indian Census of 2011 using **NumPy**, **Pandas**, **Matplotlib** and **Seaborn**
- Performed **correlation tests**, **linear regression line fitting** and **hypothesis tests** using various parameters
- Predicted the Indian population in 2021 by fitting a **Quadratic regression model** with around **90%** accuracy

Entry-Exit | DevCom, IIT Bombay

(Apr' 24-Jul' 24)

- Led a team of 4 to develop a portal to authorise entries of **10,000+** students, using **Flutter**, **Flask** and **ReactJS**
- Used **Hive** and **MongoDB** to store data, enabling smooth function of the app irrespective of network connectivity
- Ideated and enforced **bit packing** to ensure space efficiency while storing and managing data in the backend
- Employed **data federation** to retrieve data from databases of existing apps without overloading server storage

NewBee | DevCom, IIT Bombay

(Apr' 23-Jul' 23)

- Developed the official fresher student onboarding portal/discussion forum of IIT Bombay used by **1400+** students
- Implemented **user authentication**, **elastic search**, and state management using **Pinia stores** for full functionality
- Replaced Facebook groups, streamlined **student onboarding**, and formalized **student-mentor communication**

EmoSense: An NLP model for sentiment analysis | Self Project

(Dec'23-Jan'24)

- Explored **exploratory data analysis** and **text-preprocessing** using **Pandas**, **Matplotlib** and **NLTK** libraries
- Trained an **NLP** model to detect depression through tweets using **sentiment analysis** with the help of **Logistic Regression**, **LSTM** and **Word2Vec embeddings**, further comparing the accuracies achieved by each of them
- Finetuned an advanced **BERT** model with a primary focus on **masking** and **attention**, to determine whether or not the given Twitter data had indicators of depression, subsequently achieving a remarkable accuracy of **87.5%**

Neural Networks and Deep Learning | Summer of Science

(May' 23-Jul' 23)

Maths and Physics Club | IIT Bombay

- Explored the mathematical aspects and real world applications of **Decision Theory** and **Information theory**
- Covered relevant aspects of **bayesian probabilities**, **probability densities** and **gaussian distributions** in detail
- Extensively studied **model selection**, **loss functions**, **regression**, **classification**, **clustering** and **dimensionality**

OTHER PROJECTS

Website Security | Course Project

(May' 24)

Guide: Prof. Virendra Singh

- Developed a website in **HTML**, and tested it for security vulnerabilities by performing **XSS** and **CSRF** attacks
- Implemented effective XSS and CSRF mitigation techniques, comprising of **output encoding** and **CSRF tokens**

Data Structures and Algorithms | Learners' Space

(Jul' 23)

Web and Coding Club | IIT Bombay

- Learnt Data Structures like **Binary Trees**, **Arrays**, **Vectors** and **Hash Tables** as a self-learning activity
- Participated in tournaments every week on **HackerRank** with **900+** other students to solve challenging problems

Python for Data Science | Learners' Space

(Jul' 23)

Analytics Club | IIT Bombay

- Used **Scikit-Learn** to train a **Linear Regression Model** to predict closing price of stocks with **79.8%** accuracy
- Built a **Logistic Regression** model from scratch, obtaining an **R-squared value** of approximately **0.8**

POSITIONS OF RESPONSIBILITY

Project Lead | DevCom, IIT Bombay

(Mar' 24-Present)

DevCom is the Developers' Community of IIT Bombay, responsible for making and managing the tech of the institute

- Leading a team of **20+ developers**, responsible for maintaining crucial digital infrastructure for the institute
- Mentored and guided developers in writing **production quality**, **maintainable code** and **seamless deployments**
- Contributed to the development of **Mess-i** and **Entry Exit portal**, with a daily userbase of **10,000+** students each
- Deployed the system on a **Linux Server** using **bash** and ran **cronjobs** to automate **20+** hours of manual work

Department Academic Mentor | Department of Aerospace Engineering

(Jun' 24-Present)

- Mentoring a group of **6 sophomore students**, on a one-to-one basis, ensuring their **academic** and **mental** wellbeing
- Coordinating with **25** co-mentors, to smoothen the transition of second year students into the department
- Curated **course related resources**, for the benefit of **300+** students of the Aerospace engineering department
- Developing a **handbook** to provide information about **academic** and **professional opportunities** to **300+** students

TECHNICAL SKILLS

- **Programming Languages:** Python, C++, TypeScript, HTML, CSS, Javascript, Dart, Tex
- **Software:** MATLAB, ANSYS, Fusion 360, LaserCAD, Fracktory, Git, L^AT_EX, Jupyter, Arduino IDE, Qiskit
- **Libraries & Frameworks:** NumPy, Pandas, Seaborn, Scikit, Vue.js, React.js, Django, Flask, Next.js, React Native

COURSES UNDERTAKEN

- **Computer Science:** Computer Programming and Utilisation, Computer Networks, Data Structures and Algorithms, Principles of Data and Systems Security, AI and Data Science
- **Mathematics:** Calculus I, Calculus II, Linear Algebra, Differential Equations

EXTRACURRICULAR ACTIVITIES

- Awarded **Best Novice Speaker** and **Novice Finalist** at **IIMA Parliamentary Debate** out of **57** teams (2024)
- Reached the **novice finals** of the **Tabtastic Autumn Open** among **49** international debating teams (2023)
- Learnt about **personal finance**, **fundamental analysis** and the **banking sector** as a part of Finance101 (2023)
- Awarded **bronze medal** for **Karate** in the **under-16 blackbelt** girls' category at the **National Level** (2018)
- Professionally trained in **Hindustani Classical Music**, **Vocals** and **Keyboard**, for **6+** years (2015-2021)