

Currently pursuing a **Dual minor** in **Computer Science and Engineering** and **AI & Data Science** (C-MINDS)

## Scholastic Achievements

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- Currently hold **Department Rank 11** out of 157 in Department of Civil Engineering ('23)
- Secured **99.377 percentage** in **JEE-Mains** out of over 10 million candidates ('21)
- Secured among top **2.175 percentile** in **JEE-Advanced** out of 140 thousand candidates ('21)
- Scored **337 marks** out of 450 in **BITSAT** ('21)

## Professional Experience

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**Python and AI Instructor | Rancho Labs IIT Bombay** Jun '23

*A startup from IIT Delhi that provides affordable, live online coding, robotics, and AI classes to students of all ages.*

- Mentored a group 6 -10 students over concepts about **Python** and its potential use in **Artificial Intelligence**
- Aided in the course design and guided students with developing a simple chat-bot like application using python

## Keys Projects

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**Sector Analysis | DAV Team** Jul '23 - Present

- Analysed the **market growth** of **11k+** companies, listed under NASDAQ and BSE operating in various sectors
- **Scrapped** data from internet and **Classified** companies based upon their **IPO dates** and **Operating Sectors**
- Inspected the **variations** of the growth of companies with their **Market age**, **Inflation** and **GDP-per-capita**
- Surveyed the average **Revenue per Employee** of companies (private and public) belonging to different sectors
- Looking forward to correlate the findings with the internship and placement trend at IIT Bombay

**Study of PM-10 Particulate Matter | Course Project** Apr '23

*ME 794, under Prof. Soham Mujumdar, Department of Mechanical Engineering IIT Bombay*

- Studied the variation of **PM-10** Particulate Matter with factors like Temperature, Precipitation and Windspeed
- Collected the data from **CPCB** and **IMET** for **11** cities across India and performed **range coding** on them
- Designed a **2<sup>3</sup> Factorial Experiment** to Study both individual and interaction effects between each of the factors
- Examined the statistical significance of the results using **ANOVA** and fitted a **Multivariate Regression Model**

**Graphics Editor | Course Project** Jun '22

*CS 101, under Prof. S Akshay, Department of Computer Science IIT Bombay*

- Developed a simple MS-Paint like application written completely in C++ with the help of **simplecpp library**
- Supports crude features of ms-paint like; making simple shapes(square, circle and line), colouring and erasing them

**SA-Smart-Assistant | Self Project | Virtual Assistant** Jan '20 - Present

- Supports **Speech-Recognition**, can **scrap** out Wikipedia and Google search results and search and **open app**
- Additional features include Word-meanings, **Inbuilt Games**, **Inbuilt Calculator** and basic **chat-bot** features
- Provides tailored suggestions and offline search results by maintaining **user data-base** by **Real time tracking**

**Indian Crime Dataset Analysis | DAV Team** Jul '22

- Performed an **Exploratory Data Analysis** over the crimes registered under IPC in India between **2016 to 2018**
- Inspected the variation of the number and type of crimes in states with the respective population demographics
- Considered various demographics factors like Unemployment, Literacy, Urban population and Gender Ratio

**Covid-19 Forecast | Self Project | Forecasting Project | Used Covid-19 data of India** May '21

- Implemented the general **epidemiology forecast** method by **Python** over India's Second Wave of Covid-19
- Trained over data from 1st Jan to 31st May and tested the model to forecast for 63 days with about 80% accuracy

**Institute Course Feedback Analysis | DAV Team** Jun '23

- Analysed a Survey of Student Course Feedbacks using **Tableau** and provided insights over the online semesters
- Compared experience of Online with Offline in terms of Concentration, Exam Difficulty and Academic integrity

## Analysis of Britannia Industries | Self Project

Jan '23

- Analysed financial statements of **Britannia Industries** to **projected** its Market Capitalisation for next 5 years
- Visualized the variation of financial factors like **Market Cap and Income** with **inflation and GDP-per-capita**
- Fitted a **Linear model** over the data to project the value of the Market cap of the company for 5 years

## Neural-Network | Self Project | Library in Python

Aug '22

- Implemented the **Back-propagation** Algorithm for multi-layered feed-forward **Neural Networks** from scratch
- Developed into a Python Library to make Neural Networks, with the ability to be trained in **Real Time**

## SQL-type Language | Self Project | Database Management Programming Language

Oct '20

- Programmed a Database Management Programming language similar to SQL completely in **Python** from scratch
- Supports simple commands of sql like making and altering tables, conditional searching and displaying of data

## Socket-Chat Software | Self Project | Messaging Software for LAN

Oct '20

- Developed a simple yet robust **chatting** software by implementing **socket programming** using python.
- Implemented simple **server-client** model to make a server capable of handling 5 simultaneous client connections

## Positions Of Responsibility

### Data Analytics and Visualization (DAV) | UGAC IIT Bombay

Jul '22 - Present

*A diverse team of students, providing insights over Institute Data and data driver solutions to external organisations*

#### ❖ Overall Head

(Apr '23 to Present)

- Currently coordinating a **Sector Analysis** project and looking for its possible correlation with internship stats
- Selected 10 students out of **150+** registrations after carrying out a rigorous technical assignments and interview
- Actively seeking opportunities of collaborations with different **student bodies** and **startups** for relevant projects

#### ❖ Technical Team Member

| Selected 10 among 140 + applicants

(Jul '22 - Apr '23)

- Collaborated with Prof. Sunita Sarawagi from CSE, IITB for projects involving analysis of **Indian Data-sets**.
- Participated in **Convolve**, a **Pan IIT Hackathon** conducted by CISCO, and reached the **penultimate stage**
- Endeavoured in a Machine Learning Hackathon on **Time Series prediction** implementing the **SARIMA Model**
- Worked along **Insights**, a student media body, over a project regarding trends of student visits to library

### Teaching Assistant | CE 102 Engineering Mechanics

Mar '23 - Jun '23

*Under Prof. Meera Raghunandan from Department of Civil Engineering*

- Academically mentored a group of **50+** students and took weekly **tutorial** sessions for helping students
- Employed efficient communication to solve doubts of students and took the TSC session as well for the course

## Technical Skills

**Specific Skills** GUI Dev, Database handling, Socket-Programming, HTML-Scrapping, Neural-Networks

**Libraries** Pandas, Tensorflow, Pytorch, Sklearn, Qt/PyQt, Tkinter, Numpy, Scipy, OpenCv

**Office Tools** Tableau, Microsoft Power BI, LibreOffice calc, Word, Powerpoint, Excel, L<sup>A</sup>T<sub>E</sub>X

**Programming** Python, C, C++, HTML, CSS, JavaScript, MySql, SQLite

## Courses Completed

<b>AI &amp; Data Science</b>	Mathematical Techniques of Optimisation, Stochastic Processes, Statistical Design of Experiments, Machine Learning for Remote Sensing
<b>Computer Science</b>	Programming and Utilization, Logics for Computer Science
<b>Mathematics</b>	Linear Algebra, Calculus, Differential Equations - 1, Differential Equations - 2
<b>Core</b>	Solid Mechanics, Structural Mechanics, Hydraulics, Building Materials and Construction
<b>Online</b>	Supervised Machine Learning

## Extra Curricular

- Selected as junior **House Vice Captain** during 10<sup>th</sup> standard and conducted inter-house competitions
- Avid Badminton Enthusiast, Played for school at the **Cluster Level** Badminton Tournament in 8<sup>th</sup> standard
- Represented school twice at the **National Children Science Congress** (NCSC) in 8<sup>th</sup> and 9<sup>th</sup> standard
- Chosen into **Student Council** for two consecutive years in 9<sup>th</sup> standard and 10<sup>th</sup> standard of schooling