Aditya Choudhary   21B090001

Mathematics   B.S.

Indian Institute of Technology Bombay   Gender: Male

DOB: 25/6/2003

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2025	8.66

Pursuing a Minor in **Machine Intelligence and Data Science** from C-MInDS , IIT Bombay

Scholastic Achievements

- Currently holding **Department Rank 2** in **Mathematics Department** *(Present)*
- Secured **All India Rank 385 in KVPY** Examination and conferred with the prestigious scholarship *(2020)*
- Secured **All India Rank 1903** in JEE Advanced and **All India 99.6 percentile** in JEE Main *(2021)*
- Recipient of National Talent Search Exam **(NTSE) Scholarship by NCERT , Govt of India** *(2019)*
- Qualified **stage 1 of Indian Olympiad Qualifier Chemistry** & **Indian Olympiad Qualifier Astronomy** *(2021)*

Work Experience

Analyzing Alternative Data Points for Financial Markets *(2022)*
Junior Data Analyst | Yun Solutions
- **Analyzed** historical **Insider Trading** data and its **market response** by Index prices and extracted data summary.
- Performed **Sentiment Analysis** on **Investor Calls** and **speeches** using **NLP** tools like AssemblyAI, Flair, TextBlob, NLTK. Developed visualizations to map speech sentiments with candlesticks on TradingView using **Pinescript**.

Key Projects

Sentiment Analysis using ML models | *Course Project DS203 , IIT Bombay* *(2022)*
- Predicted **sentiment class** by **Lexicon and ML** methods on dataset of **reviews on E-Commerce platforms**.
- Used DL models like **RNN, LSTMs** & compared performance with models like **SVM, Naive Bayes classifier**.

JoSAA Scraper | *Self Project* *(2021)*
- Built an **automated scraper** in Python using **selenium** package to extract data spread over multiple pages.
- Exported it to csv format using **csv module** for portability further **analysis of data in Excel**.

Interactive Periodic Table | *Self Project* *(2020)*
- Developed interactive periodic table with **UI in Python and backend in SQL** using **mysql-connector-python**.
- Implemented UI to take user inputs in Python and perform **DDL and DML commands of SQL** via the connector.
- Delivered program to **modify and display table** content and structure , **calculating mass** of compound **via recursion**, **self-construct the backend** , **maintain a record of compounds** and **quiz** with a leader-board.

Equity Research Competition | *Finance Club, IIT Bombay* *(2022)*
- Conducted **research** on factors affecting the industry like **competition** , **global supply chain**and **demand**.
- Analyzed **Financial Statements** for AMD, derived inference from ratios such as **P/E**, **EPS**, **EV/EBITDA**, **RoE**.
- Performed **SWOT Analysis, Fundamental Analysis and Peer Comparison** for **valuation of the stock**.

Option Pricing Models and their Accuracy | *FinSearch - Finance Club, IIT Bombay* *(2022)*
- **Researched Options**; **Option Greeks**, their influence and cross-interaction; **pricing models** and their inaccuracies
- Analyzed **Black–Scholes model**. Built Python program to **back-test** on 3 month **NIFTY 50 CE Options** data.

Positions of Responsibility

Junior Design Engineer | *IIT Bombay Mars Rover Team* *(Present)*
- Implemented **arrow detection algorithm** using **contour detection** and geometric aspects of the figure after pre-processing through **Thresholding , Canny Edge detection , Gaussian blurring** using **OpenCV**
- Implemented **differential drive and linear speed control of DC Motors with PWM on Raspberry-Pi**.
- Researched **navigation**, **traversal**, environment **mapping** on **polar martian terrain** for **IRDC 2023** and compiled report describing **Visual Odometry**; **imaging and mapping**; **localization techniques**; **path planning**
- Used **Stereo Camera** for retrieval of depth data. Worked on **path planning** in 3D environment using **Quaternions**

Technical Skills

- **Programming Tools:** Python, C++, SQL, numpy, pandas, matplotlib, selenium, opencv, mysql-connector-python
- **Softwares:** git , LaTeX, EAGLE , LTSpice , MATLAB SimuLink , Blender , Adobe Illustrator, ROS , Gazebo

Extracurricular Activities

- Qualified **Fit in Deutsch A2 & A1** conducted by **Goethe Institut** for certification in **German** *(2019 , 2016)*
- Received **grant** from **DST ,Govt of India** to develop & present science model for **INSPIRE** exhibition *(2017)*
- Procured a rating of **1600+ on CodeChef** *(2022)*
- Volunteered under NSS IIT Bombay to **teach Class 12th Physics** to under-privileged **JEE aspirants**. *(2022)*
- **Recitation and anchoring** at the launch of Chacha Nehru Sehat Yojna by **Govt of Delhi**. *(2011)*