Ayush Sarraf | **190010014**
Aerospace Engineering | **B.Tech.**
Indian Institute of Technology Bombay | **Gender: Male**
DOB: 08-08-2002

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2023	

Pursuing a minor degree in **Data Science and Artificial Intelligence**, at C-MInDS, IIT Bombay

SCHOLASTIC ACHIEVEMENTS

- Currently ranked **3rd** amongst **73** students in the Department of Aerospace Engineering *(Present)*
- Achieved **AA** in Introduction to **Machine Learning**, and **Data Analysis** and Interpretation *(2020)*
- One of the **8** out of **600+** students to get an **AP** grade in **Biology** for exemplary performance *(2019)*
- Awarded **KVPY** Fellowship, amongst **1400** awardees out of **0.12 million** in **SX** stream *(2018)*

POSITIONS OF RESPONSIBILITY

- **Department Academic Mentor | Aerospace Engineering** *(May, 2021 - Present)*
  - Part of a team, selected based on extensive interview and reviews, mentoring **80+** students
  - Responsible for providing academic guidance and counsel to **8 second-year UG** students
- **Teaching Assistant | BSBE, IIT Bombay** *(Apr - June, 2021)*
  - Volunteered in the smooth conduct of the introductory **Biology** course for over **1200** students
  - Managed a group of **40** UG students and maximized understanding through weekly tutorials

CERTIFICATIONS AND WORKSHOPS

- Sports Analytics Workshop | AAVHAN
- Excel Bootcamp | LEARNER'S SPACE
- Cricket Analytics using Python | COLLEARN
- Sports Analytics, University of Michigan | COURSERA
- Algorithmic Toolbox, UC San Diego | COURSERA
- Basic Django, University of Michigan | COURSERA

KEY PROJECTS

- **Sports Analytics | ODI Cricket** *(May, 2021 - Present)*
  Guide: Prof Amuthan A Ramabathiran (Dept. of Aerospace Engineering) *(SURP)*
  - Implemented the **ELO Ratings System** from chess as an indicator of the team's performance index based on updating team's rating through **Probabilistic Modelling** of wins and losses
- **Spacecraft Trajectory Analysis | IRS 1A** *(Apr - May, 2021)*
  Guide: Prof Ashok Joshi (Dept. of Aerospace Engineering) *(Course Project)*
  - Designed the complete **Ascent Mission** trajectory of the three stages of **IRS 1A** space mission
  - Optimized the mission to minimize fuel loss with an accuracy of **98.6%** on final parameters
- **Data Analysis | Global Terrorism Dataset** *(Dec, 2020)*
  Guide: Prof Amit Sethi and Prof Manjesh K Hanawal (C-MInDS) *(Course Project)*
  - Used Python libraries like **Pandas, Numpy, Seaborn and Scipy Stats** for Data Cleaning, Modeling and Processing to visualise the temporal changes and correlation of variables.
- **Scramjet Engine | Thermodynamics and Propulsion** *(Nov - Dec, 2020)*
  Guide: Prof Krishnendu Sinha (Dept. of Aerospace Engineering) *(Course Project)*
  - Performed off-design calculations for **Scramjet Engines** similar to that used in the **HSTDV**
  - Analyzed the **Nozzle** to visualize relationship between **Thrust** and **Base Expansion Factor**

INTERNSHIP EXPERIENCES

- **Academic Advisor | Mentor-me, Mathongo** *(Aug - Sept, 2020)*
  - Motivated a group of **33** JEE Main Aspirants providing them with valuable academic advice
  - Received an **Average Feedback Rating** of **9+/10** from the students at the end of the course
- **Student Mentor | JEE Carnot** *(Aug, 2020 - May, 2021)*
  - Monitored the academic performance of students and ensured their overall development
  - Mentored **10** students during the tenure, promoted as a **Silver Mentor** for exemplary results

EXTRA CURRICULAR ACTIVITIES

- Completed an year-long **T.T.** course under the **National Sports Organization** *(2019 - 2020)*
- Ranked **5th** amongst **100+** freshers in the **Freshiesta Crossy** organized by **IITB Sports** *(2019)*
- Volunteered in the **Powai-Lake Cleanup Drive** organized by **Abhyuday**, IIT Bombay *(2019)*
- Participated in **Cyclothon** (a cause to promote cycling) organized by **Techfest**, IIT Bombay *(2019)*