Aditya Shrungarpure　　　　22B0418

Chemical Engineering　　　　B.Tech.

Indian Institute of Technology Bombay　　　　Gender: Male

DOB: 23/01/2004

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2026	

Pursuing Honours in **Dept. of Chemical Engineering** and a Minor in **Dept. of Biosciences and Bioengineering**

SCHOLASTIC ACHIEVEMENTS

- Currently ranked **14th** academically among **140+** total students in the Department of Chemical Engineering　['24]
- Awarded **AA grades (perfect 10)** for excellent performance in **5** out of 12 Chemical Eng. courses till date　['24]
- Secured a percentile of **99.65** in IIT-JEE Mains (**1 million+**) and **98.85** in IIT-JEE Advanced (**0.15 million+**) ['22]
- Endowed with the prestigious **KVPY Fellowship** by the Department of Science and Technology, GoI, with an **AIR 841** ['21]

RESEARCH PROJECTS

Process Development Analysis | Summer Research Projects　　　　[May '24 - Present]

Guide: Prof. Rahul Nabar, Department of Chemical Engineering, IIT Bombay

Process Development for Styrene Oxide Production
- Proposed a **cleaner** alternative with **68%** yield and **20%** more atom economy than current manufacturing process
- Designing a **PFD** for styrene oxide production using O2 to oxidise styrene with **Ga-Co-HMS-X** as catalyst in DMF
- Determined amounts of reagents required & by-products formed per kg styrene oxide using **mass balance** & **yield** calculations

Microreactors Applications and Literature Review
- Compared values of **10+** reaction parameters such as **Re** & **HMT coefficents** for microreactors & conventional reactors
- Researched about **industrial applications** of microreactors, analysing their **pros & cons**, reviewing 15+ research papers

iGEM Team, IIT Bombay | Student Technical Project　　　　[Dec '23 - Present]
- Building a **carbon capture solution** by enhancing the **calcification** in *Emiliania huxleyi* by working in a **team of 20**
- Characterised genes and proteins expressed in transformed *E. coli* cells through **SDS-PAGE** and **gel electrophoresis**
- Reviewed **40+** research papers for **semi-continuous culturing** of *E. huxleyi* and inducing nutrient limitation

Digitalising Protocol to Determine Reaction Kinetics | Course Project　　　　[Feb '24 - May '24]

Chemical Reaction Engineering | Guide: Prof. Sanjay Mahajani, Department of Chemical Engineering IIT Bombay
- **Automated** pH data analysis to calculate kinetics for base catalysed ester hydrolysis by developing functions using **Excel**
- Designed and implemented an **Arduino** UNO based **real-time** pH detection system with **0.01 units precision**

Understanding Credit Score Algorithms | FinSearch | Finance Club, IIT Bombay　　　　[Jun '24 - Present]
- Researched key **drivers** of credit scores, developed **scoring models**, and leveraged AI to enhance accuracy & fairness
- Determined the impact of customers' credit scores on **P2P lending firms** and identified the challenges they face
- Identified **bias** in credit scoring models and explored avenues to **mitigate risks** through strategic implementation

POSITIONS OF RESPONSIBILITY

Academic Mentor | DAMP, Department of Chemical Engineering, IIT Bombay　　　　[May '24 - Present]

Selected among 41 out of 120+ applicants based on interpersonal skills, peer reviews, and a rigorous interview process
- Mentoring **6 sophomores** by providing **academic counsel** and **personalized guidance** for their holistic growth
- Authored comprehensive **course reviews** for the DAMP blog aimed at guiding future batches in planning their academics

Convener, Literary Arts Club | Institute Cultural Council, IIT Bombay　　　　[May '23 - Apr '24]

Selected among 5 out of 30+ applicants, to promote Literary Arts among a 10,000+ strong student community
- Organised IIT Bombay's annual Literary Arts Festival leading a **25+** member team (**INR 200k+** budget, **2k+** attendees)
- Collaborated with **SNU** for a national level business quiz, drawing **116+ teams** with a prize pool of over **INR 5 lakh**
- Executed the 2nd **WESPA-certified** IIT Bombay Scrabble Open together with the Scrabble Association of India
- Engaged **11k+** viewers across **25** countries by creating 30 questions for the **Summer League** of IIT Bombay's quizzing blog

Class Representative | Department of Chemical Engineering , IIT Bombay　　　　[May '24 - Present]
- **Elected** representative for **140+ students** based on accountability, effective communication and inter-personal skills
- Effectively **voicing concerns** of students and bridging their gap with professors for **smooth academic functioning**

EXTRACURRICULAR ACTIVITIES

Technical Skills	• **Languages**: Python, C, C++, MATLAB, LaTeX | **Softwares**: Aspen, Fusion360, LaserCAD, Fracktory • **Libraries**: Shiny, Matplotlib, Numpy, Pandas | **Mechanical Tools**: Laser Cutter, 3D Printer, Power Tools • Secured **4th** place among **50+** teams in ITSP by prototyping a solution to effectively eliminate sewage blockages['23]
Culturals	• Bagged the **Literary Arts Cup** in the **Inter IIT Cultural Meet 2023** representing IIT Bombay['23] • Conducted a Word Games workshop for **100+** freshers to develop vocabulary and puzzle solving skills ['23] • Awarded **1st** prize in the Inter-School Hindi Elocution Competition conducted by Ramakrishna Math ['19] • Secured **2nd** position in the Inter-School Quiz Competition organised by Ramakrishna Math　['19]
Mentorship	• **ELIT**: Conducting **personalised sessions** for 4 students to improve fluency in english and communication skills ['24] • **ITSP**: Mentoring a team of 4 students in making boards using **textile waste** with a starch binder　['24]
Sports	• Awarded **Black Belt 1st dan** in Karate by the AISKF with **4+** years of extensive training　['20] • Achieved **runners-up** position in the Mumbai Suburban District School Selection Tournament in **Chess**['18]