



Sumit Kumar
Chemical Engineering
Indian Institute of Technology Bombay

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B.Tech.
Gender: Male
DOB: 22/11/2003

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2024	

Pursuing a **Minor Degree** in the **Centre of Machine Intelligence and Data Science** at IIT Bombay

Pursuing **Honors** in the Department of **Chemical Engineering** at IIT Bombay

Scholastic Achievements

- Currently **ranked 2nd** academically in a class of **157** in the Department of Chemical Engineering
- Achieved a **perfect 10 SPI** (Semester Performance Index) in the **4th semester**, comprising **38 credits** (2022)
- Awarded **Letter of Recommendation** for **exceptional leadership and management** by Prof. Venkat Gundabala (2022)
- Secured **Academic Proficiency**(AP grade), **awarded to one** student out of **163** Chemical Engineering Undergraduates enrolled in the course **Introduction to Data Analysis** for **outstanding performance** (2022)
- Achieved **99.70** percentile in Joint Entrance Exam Main among **1,200,000+** candidates across India (2020)
- Selected as **Dakshana Scholar**, a scholarship awarded to the top **1%** students of **661 J.N.V** across India (2018)
- Selected in **J.N.V.Mathura** one among the top **1.6%** students out of **4000+** applicants of Mathura district (2013)

Positions of Responsibility

Manager | ChemE Tinkerers' Laboratory | Institute Technical Council (May 2022 - Present)

Nominated representative for managing lab, catering interests of 10,000+ students across Institute| Budget:INR 5Million+

- Managing **1st Chemical Eng. tinkering lab** in **India** aimed at promoting and diversifying chemical engineering tinkering culture
- Launched **Chemexplore** providing technical assistance to **20+** students daily, **Chem-E-Car** and **SLP** for community betterment
- Conducted a focused survey to find out the interest of **300+** undergraduates to organize guest lectures and workshops

Events Coordinator | Techfest, IIT Bombay (July'21 - Apr'22)

Conducted events and secured reach for the Asia's Largest Science & Technology Festival | Events:100+

- Curated a database for contacting several personalities from around the globe for **online lecture series**
- Secured an astounding online reach of **4.5 Million+** and a viewership of **750K+** for the online lecture series

Professional Experience

Industrial Training Intern | Porus Laboratories | Visakhapatnam (May'22 - June'22)

Deployed Chemical Engineering knowledge to automate distillation column

- Worked with **4 senior engineers** in PDTS (Product Development Technical Services) Department
- Employed **DWSIM** to simulate **Plate Heat Exchanger**, find out the area ($3m^2$) and thermal efficiency(**87.5%**)
- Analyzed the **boiler** of automated distillation column and calculated the **heat duty and area** of the Boiler
- Received training in **Powder Transfer Systems** to transfer the final product of the distillation process

Key Projects

IPL Match Analysis, Winner and Score prediction | Course Project | Prof. Amit Sethi (Sep'21 - Nov'21)

Centre of Machine Intelligence and Data Science

- Performed extensive **exploratory data analysis** on **4 IPL data sets** to predict the outcome of any match
- Effectively forecasted **3 of the 4 qualifying teams**, accurately calculating the 2 underperforming teams of IPL 2021
- Compared ML regression models like **Support Vector Machine (SVM)**, Decision Trees (DTs), Random Forest Classifiers, Logistic Regression, etc. using Scikit-learn library to get the best prediction model

Thermoacoustic cooling for GPU Chip | Course Project | Prof. Venkat Gundabala (Feb'22 - May'22)

Optimizing cooling of GPU chip using Thermoacoustic principles

- Worked as a **planner** in a team of 8 to conceptualize a mechanism for deploying the Thermoacoustic model in GPU cooling
- Used heat transfer equations to **compare cooling efficiency** of active cooling by fan method and Thermoacoustic method
- Achieved **22 times** more efficiency in terms of **cooling power** and **7.5 times** more **economical** over conventional methods

Stock Market Analysis | Summer Of Science | Maths and Physics Club, IIT Bombay (May'22-present)

Annual initiative to encourage & discover joy of learning beyond coursework, gaining insights in fields of interest

- Deployed basic **Machine Learning techniques** to develop a web-based app in **Python** for stock trend prediction
- Successfully conducted an extensive **literature review** on IPO, Corporate Actions, Mutual Funds, Fundamental Analysis

Accolades & Extracurriculars

Social	<ul style="list-style-type: none">Developing Re.Liv, a platform aimed to address problems of senior citizens and integrate them into societySelected for Level1-Cohort8-2022, conducting an extensive customer discovery in Mumbai
Cultural& Sport	<ul style="list-style-type: none">Secured 2nd rank in essay writing competition among 500+ scholars of J.N.V MathuraSuccessfully completed year-long training in badminton under NSO SportsAwarded a certificate for participating in National Handwriting & Coloring Context 2013
Technical	<ul style="list-style-type: none">Completed Simulink Onramp and Stateflow Onramp by MathWorks Training ServicesSkills : C/C++, Python, MATLAB, R, L^AT_EX, HTML, JavaScript ,Octave, Ansys, MS Excel