Palak Bhavesh Vora
Chemical Engineering
Indian Institute of Technology Bombay

200020086
B.Tech.
Gender: Female
DOB: 21/8/2002

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

Pursuing **Honors** in Chemical Engg. with a minor in **Industrial Engineering & Operations Research**

Scholastic Achievements

- Ranked **2nd** academically out of **156** total students in the Department of Chemical Engineering *('22)*
- Awarded **AP grade** in **Process Fluid Mechanics** (**1** in **158**) & **Numerical Analysis** (**2** in **161**) *('22)*
- Mentored **40+ students** as their **Teaching Assistant** for **Calculus** & conducted weekly tutorials *('22)*

Professional Experience

Pfizer Inc. Worldwide RnD | *Process Modelling Intern* *(May '22 - Present)*
Developed computational tools to accelerate & predict the pharmaceutical process development
- Enhanced the **accuracy** of granular flow simulations in **Ansys Rocky** by implementing a **new module**
- Benchmarked and simulated **Discrete Element Method** models employing **custom-built** Python codes
- Calibrated three pharmaceutical powders to examine bulk flow using **high-performance computing**

Centaur Pharmaceuticals Private Limited | *Research Intern* *(Dec '21 - Jan '22)*
Took training at the Research & Development, Formulation & Analysis and Clinical departments
- Learnt to use instruments for **in vitro drug analysis** of the active ingredients in the various dosage forms
- Assisted the pharma executive in performing High Pressure Liquid Chromatography & dissolution by UV

Deutsche Bank | *MANCH 5.0 Mentee* | *Guide: Mr. Chirag A. Shah* *(Nov '21 - May '22)*
Selected for a skill development program focused on effective communication, team work and finance
- Bagged the **1st place** across **100+** participants in their case study competition working in a team of three
- Researched about the different trends, challenges and the future of **impact investing** and **ESG investing**

Technical Projects

Cooling of thermal hotspots | *Guides: Prof. P.Sunthar, Prof. Venkat Gundabala* *(Jan '22 - May '22)*
Course project: Developed an optimal technique that dilutes heat fluxes in laptops working in a team of 8
- Reduced hardware & energy costs by **100 folds**, implementing the technique of **thermoacoustic cooling**
- Depicted the achievement of **20 times** higher cooling power than conventional with the help of **OpenFOAM**

Simulation of 2D flow in the draining of a tank | *Guide: Prof. Devang Khakhar* *(Mar '22 - May '22)*
Course project: Verified Torricelli's theorem by executing simulations for varying parameters in a team of 4
- Analysed the differences in laminar & turbulent flow using **icoFoam** and **pisoFoam** solvers in OpenFOAM
- Varied mesh & orifice size using **Gmsh** and leveraged **ParaView** to visualize the resulting streamlines

Implementation of Nanotechnology to medicine | *Summer of Science* *(Jun '22 - July '22)*
Performed an extensive literature review on the applications of Nanomaterials *Maths & Physics Club, IITB*
- Studied the usage of **quantum dots** in **tumour visualisation** along with its dependence on fluid flow
- Dissected case-studies on the treatment of **Cancer** and **TB** using Nanotechnology & transport phenomena

Positions of Responsibility

Design Manager | *AZeotropy'23 : India's largest Chemical Engineering symposium* *(Jun '22 - Present)*
*Working in a **2-tier** team of **13** managers to organise intercollegiate events | Footfall: **11K+** | Reach: **50K+***
- Promoted the events and competitions to **300+** colleges by designing & maintaining the organisation's blog
- Designed a brochure to attract sponsors from over **120** companies & **500+** corporate professionals

Institute Technical Convener | *Maths and Physics Club, IIT Bombay* *(May '21 - Jun '22)*
*Part of a **7** member team fostering the interests of **10000+** enthusiasts by organising various competitions*
- Hosted & made problems for a **nation-wide** Maths Olympiad event with a turnover of **750+** participants
- Contributed to formulating physics-based questions for the **Scientific Computing** General Championship

Extracurricular Activities

- **Software:** Python, MATLAB, C, C++, R, VMD, Delta HPC, OpenFOAM, ParaView, Ansys Rocky, Gmsh
- **Developed an app** using **Flutter** to display **world time** according to the location as a part of **SoC** *('21)*
- Awarded a trophy for proficiency in **Ballet** for **5+ years** and performing in **6 monthly** concerts *('11-'16)*
- Completed **1 year** of further training in **Classical Ballet** under the **National Sports Organization** *('21)*