



M.Bhavana
Chemical Engineering
Indian Institute of Technology Bombay

210020078
B.Tech.
Gender: Female
DOB: 26/02/2003

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

Pursuing minor in the Centre of Machine Intelligence and Data Science, IIT Bombay

SCHOLASTIC ACHIEVEMENTS

- Ranked 8th academically out of 147 total students in the Department of Chemical Engineering ('23)
- Awarded 1st runner up position in Invention Factory out of 10 participant teams ('23)
- Bagged 99.12 percentile in JEE-Mains among 0.93 million candidates across the nation ('21)
- Secured 468 rank in AP-EAMCET among 1.6 Lakh candidates across Andhra Pradesh ('21)
- Awarded AA grade in Numerical Analysis, ChemE Lab 1 and Molecular Cell Biology ('22 - '23)

PROFESSIONAL EXPERIENCE

Invention Factory | IIT Bombay | Cooper Union, New York (May '23 - July '23)

A program where 20 students from various IITs and NITs are chosen to conceive an invention, create a prototype, pitch them and apply for a patent

- Invented an apparatus for evaporative cooling and water purification which does not use electricity
- Prototyped a three-chamber equipment where middle chamber uses water for evaporative cooling
- Used off-the-shelf gravity-led filter like TATA Swach which purifies water in the top most chamber
- Enhanced the efficiency to 96% of evaporative cooling by implementing tubes in walls of middle chamber

KEY PROJECTS

Green Tractor | Vishwakarma Awards | Maker Bhavan Foundation (June '23 - Present)

Succeeded in clearing Round-1 of the Vishwakarma Awards Competition among 111 teams

- Working in a team of three members to design and build a prototype of an ICE using hydrogen as a fuel
- Assessing methods to produce hydrogen from biomass (parali) best suited for Indian farmers

Elastomer testing | Guide: Prof. Hemant Nanavati, Chemical Engineering Department (April '23 - Present)

Working on a project to develop and solve tube molecular model for non-linear and entangled elastomer

- Reviewed the basics of polymer thermodynamics and various existing molecular models of polymer networks
- Performing an extensive literature survey of tube molecular model for non-linear and entangled elastomer
- Analyzing data of PBPU-E elastomer obtained experimentally using LOWESS algorithm in MATLAB

Passive heating of houses in colder regions of India | Guide: Prof. P.Sunthar (Jan '23 - April '23)

Course project: Focused on optimizing heat transfer in houses built in colder regions of India in a team of 8

- Analyzed heat transfer through walls of conventional houses and houses made of straw and clay
- Considered various modes of heat transfer, like solar irradiation, conduction and convection
- Concluded that houses made of straw and clay retain warmth with 30% less temperature drop

POSITIONS OF RESPONSIBILITY

Events Manager | AZeotropy '24 : India's largest Chemical Engineering symposium (July '23 - Present)

Working in a 2-tier team of 15 managers to organise intercollegiate events | Budget: INR 2 Million+

- Leading a team of 30+ coordinators to execute 10+ events and panel discussions with national outreach
- Administering events division drawing 100+ corporates, 350+ colleges and 11K+ footfall from all over India

Mentor, Summer of Science | MnP Club | Institute Technical Council, IIT Bombay (May '23 - Present)

Mentor in Summer of Science for the topic Genetics and Genetic Engineering

- Assisting mentee in understanding fundamental Molecular Genetic Mechanisms and techniques
- Aiding mentee in analyzing the importance of genetic engineering in mimicry of bioluminescence

EXTRACURRICULAR ACTIVITIES

- Software:** Python, MATLAB, C++, MS Excel, MS Word, MS Power Point, L^AT_EX
- Successfully completed a year long training in Yoga under the National Sports Organization ('21-'22)
- Successfully completed 108 Surya Namaskar challenge conducted by Yogastha, IITB ('23)
- Developed a Wi-Fi controlled bot as part of XLR8 conducted by ERC, IITB ('22)
- Developed a RC Plane as part of an event conducted by Aeromodelling Club, IITB ('22)

