Balne Vyshnavi
Mechanical Engineering
Indian Institute of Technology Bombay

210100040
B.Tech.
Gender: Female
DOB: 18/11/2003

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2025	
Intermediate	Telangana State board	Narayana Junior College	2021	98.20%
Matriculation	Telangana State Board	Aryabhatta High School	2019	100.00%

SCHOLASTIC ACHIEVEMENTS

- Awarded **Padmashali Prathibha Puraskar** for securing OBC NCL-**2123** rank in **JEE-Advance 2021**   *(2022)*
- Secured **99.46** percentile in **JEE Mains 2021** competing with over **1.12 million** candidates   *(2021)*
- Secured a rank of **722** out of **1.5 lakh** candidates registered for **TS EAMCET** examination statewide   *(2021)*
- Felicitated by **WPC(World Padmashali Club) committee** for securing **100%** marks in TS SSC   *(2019)*

PROFESSIONAL EXPERIENCE

Mechanical Design Engineer Intern | Lakir Technologies Private Limited, Bengaluru   *(May'23 - July'23)*
*Remote Internship where my designs were verified **3D printed** and text fixtured by other team*

- Assisted in the design and development of mechanical components and systems using **Autodesk Fusion 360**
- Collaborated with other teams members to **identify**, **solve design problems**, to prepare **prototypes**
- Created and revised technical drawings and specifications for mechanical components and systems, conducted **basic analysis** and **simulations** to validate designs, prepared design concepts and presented to the team
- Did **extensive research** on availability of **FPV drones**, its parts like frame, motors, propellers, flight controllers, camera, etc., its cost analysis and its regulatory framework for operating an FPV drone

TECHNICAL PROJECTS

Verification of Euler Bernoulli Beam Theory | Student Design Experiment   *(Jan'23 - April'23)*
Course Project | ME218 - Solid Mechanics Lab
Guide: Prof. KN Jonnalagadda, Dept. of Mechanical Engineering, IIT Bombay

- Devised an experiment to compare the results obtained by Euler Bernoulli Beam theory with theoretical values and to find the **critical force** that the simply supported beam can withstand assuming a **critical deflection** of the bridge
- Worked in a team as 4 to execute the experiment and analyze the results, tested **3 beams** of different shapes and performed **three point bending** on Universal Testing Machine (UTM) and 21% relative error was found for I-Beam

Structure Subsystem | Team Veloce Hyperloop, IIT Bombay   *(Aug'22 - Jan'23)*
*Technical team with **50+ members** that designs Hyperloop pod for **SpaceX's** global pod competition*

- Responsible for designing the **base frame** of the Hyperloop which comprises the central structure of the vehicle, with all subsystems mounted to it via welding or bolting
- Performed extensive literature review to study the methodology for **designing the base frame** of hyperloop
- Created **CAD models** on SolidWorks to aid in the creation, modification, analysis, or optimization of a design

Physics of Earthquakes - Computational Project | Course Project   *(April'23)*
ME202 - Strength of Materials, Guide: Prof. Amit Singh, Dept. of Mechanical Engineering, IIT Bombay

- Worked in a team as 2 to obtain theoretical values by **Anderson Theory** of faulting in an earthquake, and compared theoretical fault plane angles to actual fault plane angles for the three values of principal stresses and friction coefficient
- Did **simulations** by taking boundary conditions, assuming the fracture has occurred and analysed one of the two plates to see what angle it fractured at to verify that the predictions of the Anderson theory hold

The Image Cartoonifier | Seasons of Code (SOC)   *(May'23 - Present)*
Web and Coding Club, IIT Bombay

- Developing an **Image Cartoonifier application** using Python libraries like **OpenCV** and **GIMP**
- Employed Python programming language and some of its key libraries like **Numpy, Pandas** to perform data analysis
- Learned and gained practical experience with **Machine Learning**, specially Supervised Learning concepts: **Linear regression**, **Logistic regression**, **Regularisation** and analyzed the usage of these concepts
- Explored the concepts behind **deep learning specialisation** such as **neural networks**, **deep learning frameworks**
- Designing an **interface** for Image Cartoonifier, allowing users to **upload** and view **cartoonized results**
- Documenting the project thoroughly, including **technical specifications** and **code documentation**

POSITIONS OF RESPONSIBILITY

Sports Secretary | Hostel 15, IIT Bombay *(Sep'22 - April'23)*
*Part of **30+** membered student council responsible for efficient working of the hostel with **1000+** residents*
- Responsible for **ideating and executing** all institute level sports conducted by Hostel-15 sports council, IIT Bombay
- Coordinated with Sports council and Sports Council of the institute to conduct General Championships among girls
- Organised sports **General Championships** and helped increase in participation among girls

Competitions and LYP Coordinator | Mood Indigo, IIT Bombay *(June'22 - Dec'22)*
Asia's largest college cultural festival | Footfall: 146,000+ | Events: 240+ | Colleges: 4000+
- Ideated and revamped the governing rules and regulations of **15+ competitions** in various cultural genres
- Functioning as the **POC** for the cultural heads of **20+ colleges** across India thereby ensuring participation
- Negotiated deals with Cultural Academies and Professionals of various fields to provide the winners of competitions, thereby providing them a platform to showcase their talents as a part of the Mood Indigo
- Executed pune city wide elimination round with **1000+ participants** in over **10 competitions**

Zonals Coordinator | Techfest, IIT Bombay *(July'22 - Dec'22)*
Asia's largest Science and Technology fest conducted by IIT Bombay
- Procured database of schools and colleges on pan India level to bring in **20,000+ participation** in Technorion
- Coordinated with **2500+ schools and colleges** from all over the nation to enhance participation in Zonal workshops and competitions conducted by Techfest

COURSES UNDERTAKEN

Mechanical Engineering	Heat Transfer*, Microprocessor and Automatic controls*, Manufacturing Processes II*, Manufacturing Processes I, Strength of materials, Mechanical measurements, Solid Mechanics, Fluid Mechanics, Thermodynamics, Structural materials
Lab Courses	Manufacturing Processes lab*, Mechanical Measurements lab*, Manufacturing Practice lab, Solid Mechanics lab, Fluid Mechanics lab
Mathematics	Intro to numerical analysis, Advanced Calculus, Linear Algebra, Differential equations
Miscellaneous	Economics, Quantum Physics and Application, Computer programming and utilization, Basics of Electricity and Magnetism, Introduction to Electrical and Electronic circuits

(* - to be completed by Nov'23)

TECHNICAL SKILLS

Programming Languages	C, C++, CSS, HTML, Python
Software tools	MATLAB, Abacus, SolidWorks, Ansys (Basics), Catia, Autodesk Fusion 360
General Tools	LaTeX, Canva, Adobe Premiere Pro

EXTRACURRICULAR ACTIVITIES

Sports:
- Part of a team which stood **3rd** in **Triathlon GC**, conducted by Institute Sports Council, IIT Bombay *(March'23)*
- Spearheaded in a team of 3 for Hostel-15 in **Girls Squash**, Inter Hostel General Championship(GC) *(Oct'22)*
- Gone through **30 days summer sports camp** of the sport Kho-Kho in the institute involving drill sessions, practise sessions which is conducted by Indian games, IIT Bombay *(May'22 - June'22)*
- Completed a year-long rigorous training in **Athletics** under **National Sports Organization (NSO)** *('21 - '22)*

Culturals:
- Participated in **Annual InSync's Dance Show** (AIDS) organised by Insync, Dance Club of IIT Bombay *(March'23)*
- Performed alongside of 30 sophomores in **Salsa night 2k22** conducted by Insync, Dance Club of IIT Bombay *(Aug'22)*

Miscellaneous:
- Attended **EnPro, Entrepreneurship Program** by E-Cell,IIT Bombay where they covered all basic pillars of building a start-up which was summarised in 4 interactive sessions *(June'22)*
- Assisted in execution of first of its kind event called **DIY Central Perk** aimed by Abhyuday, IIT Bombay to create hanging gardens, beautiful pet-houses and a brand new sitting area by reusing waste material *(May'22)*
- Spearheaded in a team of 3 in **EnBuzz competition** conducted by E-Cell, IIT Bombay to prepare a pitch-desk for a real world entrepreneurship on 'A Step Towards Sustainability' *(Dec'21)*
- Attended **Film 101** workshop that teached all the basics of film making using Adobe Premier Pro by the professionals conducted by Silverscreen, IIT Bombay *(Aug'22)*
- Experienced the journey of **Kalsubhai Trek** which was commenced by NCC, IIT Bombay *(July'22)*

Areas of Interests:
Dance | Reading Books | Photography | Drawing