



**Bitthal Parida**  
**Mechanical Engineering**  
**Indian Institute of Technology Bombay**

**190100038**  
**UG Second Year**  
**Male**  
**DOB: 11/12/2001**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2021	0.00
Intermediate/+2	HSC	Ratanbai Walbai Jr College of Science	2019	85.20
Matriculation	ICSE	Smt. Sulochanadevi Singhanian School	2017	97.40

- Pursuing a **Minor in Entrepreneurship**, under DesaiSethi Centre for Entrepreneurship, IIT Bombay [Present]

#### SCHOLASTIC ACHIEVEMENTS

- Achieved **99.91** percentile in Joint Entrance Examination Mains out of **1.1M aspirants** countrywide [2019]
- Obtained an **All India Rank of 814** in Joint Entrance Examination Advanced out of **top 2,24,000** students [2019]
- Merit holder in KVPY examination in both SA and SX stream, among **top 1%** of students [2019]
- Recognised for being among the **top 0.5%** statewide and merit holder in NSEJS, appeared for INJSO [2017]
- Qualified Pre-RMO examination conducted by **HBCSE – TIFR** [2016/2017]
- Two Time Silver Medallist** in Dr Homi Bhabha Balvaidyanik Examination [2013/2016]
- Secured **All India Rank 1** in Junior Mathematics Olympiad conducted by **Institute of Mathematics Education** [2016]
- Secured **All India Rank 3** in NMTC examination conducted by **Association of Mathematics Teachers in India** [2014]
- Ranked in **Top 20** of Mathematics Olympiad conducted by **Mathematics Department, IIT Bombay** [2017]

#### POSITIONS OF RESPONSIBILITY

**Energy Club Convener** | Energy Club, Institute Technical Council | IIT Bombay [June'20 – Present]

*Part of a 7-member team responsible for ideation, logistics, publicity and execution of Energy related events*

- Nominated after several rounds of training sessions, assignments and interviews from amongst **35+** students
- Instrumental in ideation, organising and content creation of the Crash Course in Energy and Technical Summer School courses conducted on Learners' Space by ITC and UGAC, IIT Bombay catering over **1200+** students from all over India
- Ideated and organised Watt Hour Talks, series of talks by esteemed professors with energy background at IIT Bombay
- Involved in logistics like website management, youtube page management, **5+** video content creation and editing

**Junior Design Engineer** | Mars Rover Team, IIT Bombay [Feb'20 – Present]

*A cross-functional team of students which designs and fabricates a semi-autonomous rover for University Rover*

**Challenge**, an international robotics competition held annually by **The Mars Society at Utah, U.S.A**

- Designed a robotic arm on **Solidworks** with 6 degrees of freedom capable of covering a working range of **60 cm**
- Modelled a gripper using ball and socket joints, gears, suction cup gripping system, to lift objects upto **50 kgs** and completed the tasks provided in the problem statement of Induction Capstone Project using **Solidworks**
- Performed structural analysis on each part of the arm and ensured **safety factor** of each was within normal limits
- Optimized the setup using **Topology Optimization** in Ansys to reduce weight while ensuring strength and stability
- Involved in working with the wheels and chassis subsystem, to ideate and analyse **3-D printed and Solid wheels** keeping in mind the various factors like manufacturing constraints, weight constraints, strength and durability
- Analysing **Looped Wheels** and its variation, to design a feasible wheel model for mars rover prototype in **URC 2021**

**Coordinator | Competitions and LYP** | Mood Indigo, IIT Bombay [May'20-Present]

*Asia's largest College Cultural festival | 146,000 + footfall | 240+ events*

- Negotiating deals with cultural academies to provide winners a platform to enhance their talents (LYP)
- Functioned as the **first point of contact** for the cultural heads of **20+ colleges** all across India
- Conceptualizing and organizing online competitions to confront COVID-19 impact and cater the participants
- Ideated and revamped the governing rules and regulations of **8+ competitions** in Music genre of Mood-Indigo

**Coordinator | Events** | Techfest, IIT Bombay [Apr'20-Present]

*Asia's largest College Technical festival | 175,000 + footfall*

- Databasing and contacting to reach out proper audience and speakers and execution of online lecture series having speakers like Andrew NG, Allen Blue, Vint Cerf, virtual exhibition serious having NEXTAGE and also hope, we care.
- Publicising events to create of reach of 1.5M+ overall Techfest and 10K+ viewership for online lecture series

**Energy Crash Course Mentor and Core Team Member** | Energy Club, IIT Bombay [July'20]

- 1200+ registrations** including Btech students, Mtech students, Phd, Professors from various colleges countrywide
- 400+ students** successfully completed the course after attempting and clearing the benchmark in the final quiz
- Mentored a group of **70 students** for the entire duration of the course, by answering to content related doubts and logistics issue. Also guided fellow mentors and helped them out answering technical doubts as core team member

#### TECHNICAL SKILLS

**Languages:** Python, C++, JAVA, HTML, SQLite, Arduino

**Software:** Solidworks, AutoCAD, Ansys, ROS, Adobe Photoshop, Adobe Illustrator, Filmora

## KEY PROJECTS AND INTERNSHIPS

**Invisibility Cloak using OpenCV** | Season of Code [April'20 – June'20]

- Learnt basics of image processing and software like **unity**, also learnt about some basics of **Augmented reality**
- Using python, built a **OpenCV** module code to detect cloth of particular RGB value and replace it with the background image captured beforehand, to create an effect of invisibility and thus making it invisibility cloak

**Built a Paper Keyboard using Python** | Season of Code [April'20 – June'20]

- Using python, built an **OpenCV** module code, for detection of the paper keyboard layout through webcam or camera.
- Created a code to detect coloured nail of a finger and traced it's movement on the paper keyboard to type on screen

**XLR8 – (Mobile Controlled bot)** | Electronics and Robotics Club, IIT Bombay [August'19]

- Designed and fabricated **smartphone-controlled bot**, with a coordinated 4-member team, able to traverse a wide range of terrain, with an incorporated differential mechanism to provide stability during sharp turns in the course.
- Used **HC-05 Bluetooth** module for wireless communication with **android based controller** from mobile phones
- Utilised **L293D motor driver, 7805 IC** for regulating the voltage across HC05 and motor driver for controlling the bot.

**Line Follower Bot** | Electronics and Robotics Club, IIT Bombay [August'19]

- Successfully designed a **line follower bot** from scratch, with a coordinated 4-member team, semi autonomous in nature and followed a white line in black ground, capable of successfully taking turns at any angles in the route
- Used **Arduino UNO** for the creating the bot logic which used differential mechanism and LSRB algorithm
- Developed a circuit comprising of **L293D motor driver, 7805 IC, HC05, 3 IR sensors** and **lithium ion batteries**

**Built a Cricket Game using Java** | Course Project ICSE [2017]

- Created code of **1500+** lines to make an input based cricket game, with **weighted probability** using **BlueJ** by oracle
- Received special acknowledgements for the code and received **100%** marks in the course of computer application

**Content creation and management Intern** | A Hundred Hands Foundation [July'20]

- Aim – Work on the **Denim Project**, a non-profit organisation which recycles jeans to make new products, all of which is done by underprivileged people and patients at **NIMHANS** centre, to help them earn their own living.
- Worked towards creation of content for catalogue and brochure and also worked on a micro-site for e-commerce

**Product Marketing Intern** | Enap Rentals [March'20]

*Contributed in Marketing activities as a Marketing Coordinator under Vicinity charter*

- Aim – Strategized, implemented and managed to achieve higher profits by brand recognition
- Collaborated with **Solside** (largest hostel fest), made posters and on ground execution of campaigns planned
- Publicised by **interrogating with General Secretaries** of Hostels for their individual and institute level events

**Online Tutor** | Baudhayan Career Institute [August'20-Present]

- Providing proper guidance and motivation for students of **class 11<sup>th</sup> and 12<sup>th</sup>** preparing for JEE examination
- Drafting and creating video lectures for the subject of **Physics** for special 30 students selected through an entrance

**Physics Faculty** | IITians' Caliber [August'20-Present]

- Start-up by **IITB and IITK graduates** aimed at catering to students from class 6 to 12 with live lectures from IITians
- Involved in creation of physics content, DPPs and Question Banks along with content for live video lectures

## COURSES UNDERTAKEN

Core Courses	Interdisciplinary courses	MOOCs
Engineering Graphics and Drawing	Calculus, Linear Algebra	Introduction to Artificial Intelligence
Engineering Mechanics	Quantum Physics	Programming for Everybody
Thermodynamics*	Computer Programming	Using Python to access web-data
Solid Mechanics*	Biology	Using Databases with python
Fluid Mechanics*	Physical and Organic Chemistry	Python Data structures
Structural Materials*	Electrical and Electronics Circuits*	Python for Everybody
	Economics*	Machine Learning for All
	Developing Proof of Concept*	
*to be completed by December'20		

## EXTRA CURRICULAR ACHIEVEMENTS

- Secured **1<sup>st</sup>** position in **Street play General Championship** representing Hostel 15 and 16 [2020]
- Stood **2<sup>nd</sup> overall** and represented IIT Bombay in **Inter IIT Cultural Meet 4.0** [2019]
- Completed a year-long professional training in Cricket under NSO [2019]
- Captained **Bronze medal** winning team in **Basketball** championship at Freshiesta among 1000+ freshies [2019]
- Recognised with several medals at **National level Karate championships** [2014]
- State level player in **Discus Throw** at AISM and also District Sports Competitions. [2016]
- Completed First Year of **Gandharva** Examination in **Classical Singing** with distinction [2015]
- Received **A grades** in both **Elementary and Intermediate Drawing Examination** [2015-2016]
- Volunteered in **IIT Bombay Half Marathon** which had a footfall of **4000+** [2019]