



Hardik Naresh Rupani
Mechanical Engineering
Indian Institute of Technology, Bombay
Specialization: Mechanical Engineering

09010030
UG Third Year (B.Tech.)
Male
DOB: 24-12-1991

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2011	9.00
Intermediate/+2	Maharashtra State Board	Sindhu Mahavidyalya	2009	86.67
Matriculation	Maharashtra State Board	St. Fransis De Sales School	2007	81.23

ACADEMIC ACHIEVEMENTS

- Secured **AIR 441** in **IIT-JEE** amongst **400,000** candidates.
- Currently **Ranked 7** in the **Mechanical Department** (B.tech and Dual Degree Programme) in IIT Bombay.
- Awarded **AP** grades in Linear Algebra and Modern Physics for exceptional performance.
- Ranked **923 (Maharashtra state rank-96)** in AIEEE'2009 amongst **1.1 million students**.
- Cleared the First Level of **International Physics Olympiad 2009** and **International Chemistry Olympiad 2009** among the **top 1%** in approximately 35,000 candidates.
- Secured **383** marks in **BITSAT** and was in the top **500** students all over India.

MAJOR PROJECTS

REGENERATIVE AUTO SUCTION FOUNTAIN

Guide: Prof. Amit Agrawal

[Jan'11-Mar'11]

- Designed a scale 10 model of fountain which **works iteratively** for **10 minutes without energy supply**.
- Implemented the technique of auto suction to increase system's efficiency by **~5 times** over existing models.
- Analysed the velocity flow rate and pressure gradient required to generate an **effective model**.

MATERIAL SELECTION AND DESIGN

Guide: Prof. G.V. Prabhugaonkar

[Aug'09-Nov'09]

- Carried out extensive research on the properties of materials used in **Surgical Instruments** and made a qualitative selection for the same.
- Analysed the cost effectiveness, availability and market supply of the materials to be used as surgical instruments.

UID SOFTWARE PROJECT (Registration Protocol)

[Sept'09-Nov '09]

Guide: Prof. Deepak Phatak

- Created a C++ program using concept of **thinning of lines** for **fingerprint comparison**.
- Developed program based applications for taking attendance, opening accounts in central library, analysing the people boarding the transport buses and various other activities in campus.
- Currently is being used by 1st year UG students of IIT-B for giving attendance.

INTERNSHIP AND SUMMER PROJECT

WATER HARVESTING USING ANIMAL POWER

[June'11-Present]

Helping villagers by providing convenient mode of water harvesting

- Designed a transmission **system using bull's power** to draw **27000 lts water** with a 1.5 hour run.
- Flexure mechanisms enable achieving **high efficiencies close to 85%**.
- Highly effective in **villages** having **paucity of power supply** where animal power is available readily.

HEART BEAT COUNTER

[May'10-June'10]

(Summer Project under Electronics Club)

- Simulated the circuit to count heart beat in **LT Spice**.
- Built a working model of the same on PCB (Printed Circuit board).

KEY COURSES UNDERTAKEN AND PROGRAMMING SKILLS

Department Courses

- Manufacturing Processes (T & L)
- Thermodynamics
- Fluid Mechanics (T & L)

Other Courses

- Operation Management
- Data Interpretation and Analysis
- Digital Electronics

Programming Skills

- Programming Languages Known: C, C++, **HTML, PHP.**
- Operating systems: Windows, Linux/Unix, Mac
- Software operated: Matlab, Scilab, Microcap, Adobe Photoshop, Excel

POSITIONS OF RESPONSIBILITY

OVERALL COORDINATOR *Hostel Premium league*

[Aug'09-Sept'09]

- Conceptualized and successfully implemented the '**Hostel Premier League**' comprising of 10 teams with a total of 45 league matches.
- Negotiated with the sportswear suppliers in Mumbai managing funds to the tune of **INR 1.2 lac.**
- Led a **team of four secretaries** to maintain a vibrant sports atmosphere in the hostel.

COORDINATOR (EVENTS) *Techfest IIT Bombay*

[May'10-Feb'11]

- Executed Event '**Nexus**' (international level) having participation of about 500 colleges over 4 countries.
- Worked for the '**on the spot**' events under the Ozone Department.
- Handled the pre-event planning of the competition, arrangement of the infrastructure required, promotion of event and worked for the successful execution of the event.

COORDINATOR (FOOD N BEVERAGES)' *Mood Indigo*

[July'10-Dec'10]

- Secured deals with **Barista, Cad-B** and a local cafeteria on behalf of Mood Indigo worth **INR 2 lakh.**
- Ensured adequate and smooth supply of food during the fest.

SOCIAL SERVICE

- Successfully completed NSS (2010) course conducted in IITB.
- Made a trip to Surgeon Village near Gujarat border surveying their problems and forwarding the same to the Government of Maharashtra.
- Taught basic concepts of English to the students (class of 23) of mess workers and non-teaching staff of IITB (NSS- Education Outreach).
- Planed several tree plantation sessions in Hometown (Nagpur) using funds collected from people.

EXTRA CURRICULARS

- **Technical Activities :**
 - Engineered a machine to **arrange blocks each weighing 450gm in form of a pyramid** for Institute level **Robocon** and secured **2nd** position.
 - Constructed a bot to **cross a valley of approx. 5 feet** for Crossover Techfest'2010 and reached **top 16** amongst 100 teams appeared for the same.
 - Actively participated in institute level technical activities such as **Nexus, line follower** and **F1.**
- **Sports Activities :**
 - Completed a **26 day Basic Mountaineering Camp** certified by the Government of India; scaled a height of **16000 feet** and was awarded an '**A**' grade.
 - Helped my Rope (7 membered) to achieve **Best Rope** award for team work demonstrated during BMC activities.
 - Represented my hostel in Institute **Cross Country Race (8 km.)** securing 19th place.
 - Represented my hostel in **Inter Hostel Football GC** and **Water Polo GC.**