



Dhananjay Sethi
Mechanical Engineering
Indian Institute of Technology, Bombay
Specialization: None

100100052
UG Third Year (B.Tech.)
Male
DOB: 23.10.1992

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.76
Intermediate/+2	CBSE	The Shishukunj International School, Indore	2010	95.80
Matriculation	CBSE	The Shishukunj International School, Indore	2008	94.20

ACADEMIC ACHIEVEMENTS

- Secured an **All India Rank- 357** in IIT-JEE amongst **4,70,000 students** who appeared [2010]
- Secured an **All India Rank- 215** in AIEEE out of **10,00,000 students** who appeared [2010]
- School topper in the CBSE Board Examination in classes 10 and 12 [2008, 2010]
- Pursuing a **minor degree in Management Sciences**

INTERSHIPS, PROJECTS AND SOCIAL WORK

INTERSHIP AT SABIC RESEARCH & TECHNOLOGY (FORMERLY, GE PLASTICS), BANGALORE *Ranked 4th in Fortune Global 500 (2008), \$51 billion in revenue (2011)* [May '13-Present]

- Finite element modeling of moisture diffusion in the Noryl GTX plastic in the fuel tank flap of **Damler AG cars (Mercedes-Benz)** using **ABAQUS/Standard & HyperMesh**
- Application of a **Fickian diffusion model** with asymmetric boundary conditions
- Coupling of hygroscopic & mechanical strain**, a novel area for mass-diffusion analysis
- Projected Impact:** Implementation of a better design of the tank flap resistant to moisture growth

NON-INVASIVE HAEMOGLOBIN-CUM-COMplete BLOOD COUNT MEASUREMENT DEVICE *Prof. Santosh Noronha, in collaboration with Dr. Kunal Sehgal, Hinduja Hospital (Mumbai)* [Feb '13-Present]

- Techniques employed: **Orthogonal polarization spectral (OPS) imaging & Photo-spectroscopy**
- Development of a portable **near-IR camera 350x magnification** capability through a **smartphone**
- Measurement Parameters: RBC count, WBC count, platelet count, mean corpuscular volume (MCV) & Hb
- Potential Impact:** To be used as a time saving & cost effective point-of-care screening device for primary health issues (eg. anaemia) in OPD's and low-resource settings

DESIGN OF A SUTURE ANCHOR FOR BETTER PULLOUT STRENGTH *Prof. B Ravi, in collaboration with Dr. Deepak Bhatia, KEM Hospital (Mumbai)* [Feb '13-Present]

- Development of a suture anchor for better pullout strength for arthroscopic rotator-cuff repair surgery for the weak Indian osteoporotic bone
- Involves **Finite Element Analysis and Modeling in Abaqus FEA**
- Potential Impact:** does away with bone cement thereby reducing surgery time by 20 minutes

INDUSTRY REVIEW: THE INDIAN MEDICAL TECHNOLOGY INDUSTRY *under Prof. B Ravi* [February '13]

- Special Focus on successfully implemented low cost medical device innovations
- Market Analysis, Government Regulations, Key Challenges & Opportunities

DRILLING IN AEROSPACE COMPONENTS *Course project for Manufacturing Processes* [Spring'12]

- Studying mechanics of drilling in Titanium and its alloys
- Mechanical analysis of burr, its implications and ways to reduce it

YDSE APPLET *Course project for Computer Programming and Utilization*

[Spring '11]

- Developed a program that calculates and generates the fringe pattern to depict interference as in **Young's Double Slit Experiment** using **C++** and **EzWindows** graphics system in a team of 2
- Implemented as a learning aid for class 12 students

VOLUNTEER AT HELP AGE INDIA

[Dec '11]

- Participated in community service and studied the NGO model
- Involved with door-to-door campaigning, gave awareness health talks to the aged and reported case-studies
- Suggested solutions to problems associated with the **Mobile Medicare Unit Service**
 - devised a colour identification system for easy understanding of medicine dosage

INTERDISCIPLINARY COURSES AND SOFTWARE SKILLS

- **Healthcare On Coursera:** Healthcare Innovation & Entrepreneurship by Duke University, Inter-professional Healthcare Informatics by the University of Minnesota
- **Mathematics :** Calculus, Linear Algebra, Differential Equations, Numerical Analysis, Data analysis and Interpretation
- **Management & other:** Project Management, Accounting and Finance, Marketing Management, Economics, Psychology, Electrical and Electronics Circuits, Computer Programming and Utilization
- **PROGRAMMING LANGUAGES:** C++, C
- **SOFTWARES:** Abaqus FEA, HyperMesh, MATLAB, Solid Works and MS Office

POSITIONS OF RESPONSIBILITY

MANAGER, EVENTS –THE ENTREPRENEURSHIP CELL, IIT BOMBAY *Conceptualizing events and coordinating with 6 other departments is the challenging aspect of this profile* [Mar '12-Mar'13]

- Leading and motivating a **two-tier team** of **150 volunteers** and handling a **budget in excess of INR 6 million**
- Responsible for structuring and execution of **Eureka!** (Asia's largest Business Plan Competition), spread over **5 months** with 3 stages, a total prize money of **INR 4 million**
- Responsible for organizing **15 business plan workshops** across India, reaching **1600 people**
- Organized **The Entrepreneurship Summit:** a 2-day event for **5000 students and entrepreneurs** to be a part of workshops, panel discussions (by the likes of Adi Godrej, Mohd. Yunus, Aditya Birla) & competitions

NEW INITIATIVES

- **The Entrepreneurship and Business Club, IIT Bombay:** Initiated the structuring of the club and planned more than **15 events** considering the different levels of knowledge of entrepreneurship in students
- **Eureka! 2012:** Introduced new incentives in the form of **Eureka! Youth award**, elevator pitching and diverse **consultancy services** for the winners of Eureka! 2012
- **Harvard US-India Initiative :** Collaborated with Harvard University students to conduct an international student conference on Entrepreneurship and Innovation for the first time in IIT-Bombay

EXTRA-CURRICULAR

- **ENSPACE, THE ENTREPRENEURSHIP MAGAZINE, IIT-B:**
 - Contributed articles and interviews regularly
 - Conducted and published an **extensive institute-wide survey of start-ups** that was utilised by the Entrepreneurship Cell, IIT-B
- **SPORTS**
 - Selected for a team of **20 table tennis players** under the **National Sports Organisation (NSO)**, IIT-B
 - Was a part of the Hostel Cricket Team that won the Freshmen Cricket Tournament in 2010