



Ronak Mayur Mehta
Electrical Engineering
Indian Institute of Technology, Bombay

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Dual Degree
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Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay, Mumbai	2011	8.81
Intermediate/+2	Maharashtra State	D.G. Ruparel College, Mumbai	2008	92
Matriculation	Maharashtra State	St. Francis High School, Mumbai	2006	91.86

SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank 168** in **IIT JEE 2008** out of 300,000 aspirants (2008)
- Secured **All India Rank 151 (State Rank 14)** at **AIEEE 2008** out of 7,00,000 aspirants (2008)
- Placed in the top 255 out of 35,000 aspirants in the **National Physics Olympiad** (2007)
- Placed in the top 255 out of 35,000 aspirants in the **National Chemistry Olympiad** (2007)
- Awarded the coveted **AP grade** for outstanding performance in **Economics** (2009)
- Awarded **Silver Medal** in the prestigious Homi Bhabha Young Scientist Competition (2005)
- Pursuing a Minor Degree in Management at Shaliesh Mehta, School of Management (2009 – present)

WORK EXPERIENCE AND KEY ACADEMIC PROJECTS

- **IMAGE SALIENCY AND ITS APPLICATIONS | NATIONAL INSTRUMENTS** (Oct. – Nov. '10)
 - Developed a **graphical code** in **Labview** for detecting context free saliency in images by processing low-level information such as color, intensity, orientation obtained by **generating feature maps**
 - Incorporated a **image-learning and segmentation** feature to assess high-level information such as asymmetrical effect and proposed methods to extend the model to detect saliency in videos
 - Identified applications such as **detecting errors in assembly line** using machine vision, billboard designing, image compression, object recognition and **successfully tested** the code for the same.
- **WILKINSON POWER DIVIDER | Guide: Prof. Jayanta Mukherjee** (Oct. – Nov. '10)
 - Designed a **schematic** using **Advanced Designing System (ADS)** for a Wilkinson's Power Divider to provide equal power division at 1.8 GHz along with other required specifications
 - Performed **EM simulations** on the layout in order to verify the response obtained in the schematic
 - Fabricated the above circuit on a **PCB** and **tested** the final circuit using a **network analyzer**
- **A ROTATIONAL INVERTED PENDULUM CONTROLLER | Guide: Prof. D. Chakraborty** (March '10)
 - **Derived the system model** of the rotational inverted pendulum to describe its dynamics
 - Designed a **feedback controller in Simulink** for balancing upright the pendulum model such that closed loop response met the required specifications such as arm regulation, pendulum regulation and control input limit
- **DITHERING AND SUPER-RESOLUTION | Guide: Prof. V. M. Gadre** (March '10)
 - Studied the problems in **restoring image quality** on changing in the resolution and implemented techniques of **dithering** and the **Papoulis - Gerchberg** algorithm using MATLAB, to address them
 - Concluded qualitatively, the advantages of using **dithering** as a **pre-processing** tool for **images prone to noise** when reducing their resolution
 - Applied the Papoulis - Gerchberg algorithm to achieve **super-resolution** to double the size of original image, and inferred its advantages in **image reconstruction** and **deblurring**

- **ANNIHILATION FILTERS** | *Guide : Prof. S. N. Merchant* (Nov. '10)
 - Developed a code in MATLAB using **annihilation filter method** to identify coefficients of complex exponentials in the given signal using minimum number of samples
 - Made additional improvements in the code, with the aid of the **MUSIC method** in order to **combat noise** when provided with more samples of the signal
- **P & G: PRODUCT STRATEGY FORMULATION** | *Guide: Prof. Dinesh Sharma* (Oct. – Nov. '09)
 - Carried out a detailed study on **current situational analysis** of the company's product line-up, market segmentation and target markets **using SWOT and PESTLE analysis**
 - Compiled the company's current **marketing mix** (Product, Price, Promotion and Place/Distribution)
 - Conceived a **unique product idea**, "NeoSpray" to increase the company's market share and developed a marketing **strategy for launching it** using techniques like STP analysis

SOFTWARE SKILLS

- **Programming Languages** : C, C++ , Labview,
- **Software Tools** : MATLAB, Photoshop, Flash, ngspice, MAGIC, Sientaurus, Simulink, ADS, Eagle

POSITIONS OF RESPONSIBILITY

- **CORE GROUP MEMBER, HORIZONS, MOOD INDIGO 2010** | *Asia's Largest College cultural festival*
 - **Successfully led a 2-tier team of over 200 volunteers** to conceptualize and execute over **60 unique events** such as the international music festival, ultimate variety show, interactive sessions, workshops and other professional performances and publicize the same across all media avenues
 - **Negotiated** with several artists and **collaborated** with various **embassies, cultural organizations and companies** to bring down famous and rare art forms from around the world
 - **Initiated** efforts and organized the **first ever Sumo Wrestling Exhibition in India** with world champion Sumo Wrestlers and livened up the festival by staging the **first ever Street Buskers' Festival in India** and the first ever **Professional Fashion show** in a college by **Wendell Rodricks**
 - Took initiatives like Mela, Hands-on sessions, Conspiracy FilmFest, and **revamped flagship events**
- **INSTITUTE STUDENT MENTOR & DEPARTMENT ACADEMIC MENTOR, IIT BOMBAY** (2010-11)
 - Selected among 77 out of 1200 students **to serve as role model** for incoming freshman batch
 - Guiding 14 freshmen with regards to academics, extra-curricular and general aspects of life at institute
 - Selected as an department **academic mentor** to motivate and help academically weak students

EXTRA CURRICULAR

- **Awarded the Hostel Cultural Colour** for the year 2009-10, **Hostel Cultural Special Mention and PAF Colour** in 2010-11 for outstanding contribution to cultural activities
- Co-Editor of the Annual Cultural Newsletter "Mirage" that is circulated across Mumbai
- **FILM MAKING AND DRAMATICS : Proficient actor & script writer**
 - Co-directed the 3rd place winning Drama in the inter-hostel General Championship
 - Scripted & acted in Annual Sophomore's Production '09 in front of an audience of over 500 (2009)
 - Among top 10 performers in Stand-up Comedy Competition in the entire institute (2009)
- **SPEAKING AND DEBATING : Fluent speaker & Debater**
 - Stood 2nd in Debating GC, 4th in the overall Speaking GC (2009-10)
 - Qualified to the Quarter-Finals in Prestigious National Debate at Hindu College as adjudicator (2009)
 - Active member of Debating Society and Speaker's Club, IIT Bombay
- **MUSIC : Vocalist & Harmonium player**
 - Stood 1st in singing competitions in the hostel (400 inmates) in '08 and '09
 - Trained rigorously for three years in Hindustani Classical Music on a Harmonium