Mihir Patel | **08D07025**
Electrical Engineering | **UG Third Year(Dual Degree)**
Indian Institute of Technology, Bombay | **Male**
Specialization: Microelectronics | **DOB: 18/09/1990**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2010	8.66
Intermediate/+2	Baroda High School, Alkapuri	Baroda High School, Alkapuri	2008	81.00
Matriculation	Baroda High School, Alkapuri	Baroda High School, Alkapuri	2006	92.23

ACADEMIC & EXTRACURRICULAR ACHIEVEMENTS

- Received a 'Tech - special mention' award from the institute for academic year 2009-2010.
- Achieved All India Rank 169, [99.94 percentile], in IITJEE'08.
- Achieved All India Rank 419 in AIEEE'08
- Qualified for INChO'08 (Indian National Chemistry Olympiad) for being amongst top 1% in India.
- Qualified for INPhO'08 (Indian National Physics Olympiad) for being amongst top 1% in India.
- Achieved All India Rank 23 in NSO'08 (National Science Olympiad).

KEY PROJECTS

PRATHAM, IIT Bombay Student Satellite [Dec '08 – April '10]

As a member of Integration and Mechanisms Sub-systems

- Co-author of the abstract on Integration of nano cube-sats uploaded on IAF (International Astronautical Federation).
- Designed a monopole deployment mechanism, jettison detection snap mechanism.
- Defined the set of rules of wire routing for convenient assembling of the satellite.

FinFET simulation [May '10 – July'10]

Guide: Prof. S Duttagupta

- Modeled a FinFET using Sentaurus Structure Editor.
- Simulated manufacturing process of a FinFET using sprocess.
- Characterized FinFET using sdevice.

Wilkinson Power Divider [Sept '10 – Nov '10]

As a course project in Microwave integrated circuits. Instructor: Prof. Jayant Mukherjee

- Manufactured an RF circuit that could divide an input power of high frequency (in GHz spectrum) into two equal parts.
- It involved simulation on ADS software and knowledge of linear and non-linear micro-strip waveguides.

Basic Artificial Intelligence based only on hardware [Feb '10 – March '10]

Design Challenge in digital systems lab. Instructors: Prof. M. B. Patil, Prof. Swaroop Ganguly

- It involved retrieving the data from the real world through a transducer > converting it into digital format through ADC > Finding out the multi-bit statistical Mode > Displaying the most preferred state of the system under consideration.
- The algorithm was implemented using synchronous counters. Emphasis was to given to optimize the number of registers used to store the count measure.
- Tricky part was to make level sensitive and edge sensitive blocks compatible to each other.
- Got an AA in the course.

Analysis of graphic equalizer **[March '10 – April '10]**

Design Challenge in a course on Signals and systems. Instructor: Prof. V. M. Gadre

- Did Fourier analysis of the commercially available music player softwares.
- Described an algorithm that can possibly be used to make one's own graphic equalizer.

Autonomous character (Image) recognition robot **[April '09 – July '09]**

A group summer project under Electronics Club, IIT Bombay

- We stored the images of the sample cards into the memory and then compared the captured image with it to get the match count. The match percentage above a limit is counted at correct card.
- We repeated it for all the cards and then formed a dictionary word out of it and finally rearranged them in that order.
- Learnt about AVRs, image recognition through Matlab.

SOFTWARE SKILLS

- Device & Process Simulation: Sentaurus structure editor, sprocess, sdevice, tecplot sv
- Circuit simulation and printing: LT spice, NI Multisim, Eagle, Cadstar, Xilix ISE, ADS
- Miscellaneous: Matlab (image processing toolbox), Solidworks, Ansys
- OS: Windows, Linux
- Language: C, C++, Verilog HDL, Assembly Language

KEY COURSES

Department Courses:
Electronics Devices and Circuits
Digital Systems
Analog Circuits
Electrical Machines & Power Electronics
Signals & Systems
EM Waves
Control Systems
Introduction to Nanotechnology

Elective Courses:
Probability and Random Processes
Microwave Integrated Circuits
Microprocessor
Physics of Transistors
Digital Signal Processing
Introduction to Nanoelectronics

Extra courses:
Marketing management
Introduction to Economics
Introduction to human psychology

POSITION OF RESPONSIBILITY

- Core Team Member responsible for Alumni Interactions of Student Alumni Relations Cell, IIT Bombay. [July '10 – ongoing]
- Technical Secretary my hostel. (strength: 350) [July '09 – April '10]
- Member of the TechniC Club, IITB (the club that conducts all the technical general championships in the institute). [July '09 – April '10]