



**Nikhil Khandelwal**  
**Electrical Engineering**  
**Indian Institute of Technology, Bombay**

**09007017**  
**UG Third Year (B.Tech.)**  
**Male**  
**DOB: 13-11-1991**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2011	8.87
Intermediate/+2	A.P.I.P.E	FIITJEE Junior College, Hyderabad	2009	94.00
Matriculation	C.B.S.E.	Bhartiya Vidya Bhawan's Bhagwandas Purohit Vidya Mandir, Nagpur	2007	94.00

## SCHOLASTIC ACHIEVEMENTS:

- **IITJEE:-** Secured **AIR- 94** in IIT-JEE out of around 3.85 lakh candidates.
- **AIEEE:-** Secured **AIR- 24** in AIEEE - B.E. / B.Tech., out of over 11 lakh candidates, and **AIR-58** in AIEEE - B.Arch.
- **KVPY:-** Was selected as a scholar of the **Kishor Vigyanik Protsahan Yojna (KVPY)** among the top-126 students of the country.
- **INChO:-** Was selected for the **Orientation-Cum-Selection Camp** for the International Chemistry Olympiad after being awarded a **Gold Medal**, and a Certificate of Merit in the **Indian National Chemistry Olympiad**, among the **top-37** students.
- **Other Science Olympiads:-** Was awarded a certificate of merit for the **Indian National Physics Olympiad** and the **Indian National Astronomy Olympiad** for being among the top 1% students that appeared.
- **Cyber Olympiad :-** Secured **AIR-106** in the **National Cyber Olympiad** conducted by the Science Olympiad Foundation, in class 9<sup>th</sup>.
- **CBSE Scholarship:-** Recipient of **All India CBSE Merit Scholarship** in Engineering Stream, sponsored by the Govt. of India.

## PROJECTS AND OTHER TECHNICAL ACTIVITIES:

- **Microprocessor Designing:** (Spring – 2011)  
*Guide:- Prof. Sachin Patkar and Prof. Udayan Ganguly.*  
Designed a **Microprocessor** with Von-Neumann Architecture using **Verilog** HDL and simulated it on an F.P.G.A. board, as a Course Project in Digital Electronics. In that designed the C.P.U. of the microprocessor which could interpret 8-bit Op-Codes and process them as required.
- **Resistance RAM Characterisation:** (Summer-2011)  
*Guide:- Prof. Udayan Ganguly.*  
Studied the Resistance RAMs (with **Metal-Insulator-Metal** Junctions), and **developed algorithms** and codes for the **electrical testing and characterisation** of such RAMs developed by other members of the team working on the same as a part of Summer Project.
- **Optical Encoder for speed measurement:** (Spring – 2011)  
*Guide:- Prof. Anil Kottantharayil*  
Made an analog design to measure the speed of a rotating object using an LED-sensor pair and counting the number of times the path between the two is blocked by charging a capacitor at every such event, and measuring the final voltage across the capacitor.
- **Solar Splash:** (Spring – 2010)  
Participated in Solar Splash Event in **TechFest** (Technical Festival of IIT-Bombay), which required us to make a robot (boat) absorb solar energy, store it in a Capacitor, and use it to move in water as fast as possible.
- **OP-AMP Design:** (Spring – 2011)  
*Guide:- Prof. Anil Kottantharayil*  
Made the design of a four stage op amp with given specifications. Simulated the design on LTspice to confirm the validity of the design and then implemented the circuit on breadboard.
- **Unique Identification System:** (Autumn – 2010)  
*Guide:- Prof. D.B. Phatak.*  
Made a course Project on Unique Identification System, which involved **Database Management, Fingerprint Analysis and Matching**. Coded the Database updating interface.

- **Analysis of Operating System Market in India:**

(Autumn-2010)

*Guide: Prof. Haripriya Gundimeda*

Conducted an analysis of the operating system market as a mini-Course Project in Economics. This included the past and present trends of the market structure, the current players and their market share, the market size and its growth, and concluded that the market was a monopoly of Microsoft.

## SOFTWARE AND PROGRAMMING SKILLS:

- Software Skills:- MATLAB, LATEX, SPICE, EAGLE, MS-OFFICE.
- Operating Systems:- WINDOWS (XP, Vista, 7), UBUNTU (Linux).
- Programming Skills:- C/C++, HTML, VERILOG HDL

## POSITION OF RESPONSIBILITY:

- **Institute Secretary, Lawn Tennis (2011-12)**  
Currently working as the Institute Lawn Tennis Secretary, and managing various activities and events related to the sport in the institute. Also co-ordinating with the rest of the Sports Council to manage the general sporting events of the institute.
- **Coordinator, TechFest'11 –**  
Worked as a co-ordinator in TechFest 2009, in the Technoholix Department and handled the Pyro-works during all the Technoholix Performances.
- **Coordinator, Mood Indigo'10** (Cultural Festival of IIT-Bombay) –  
Worked as a coordinator for the INFORMALS Department for conducting events at the MI-10, and conducted the event "AM I TALENTED??".
- **Coordinator, Student Alumni Relation Cell –**  
Worked as a coordinator for the Student Alumni Relation Cell (**SARC**) as a part of the LECTURE SERIES Department, conducting lectures by highly successful Alumni of the Institute. Some lectures have also been broadcasted on National TV.
- **Organiser, TechFest'10.**
- **Organiser, Mood Indigo'09.**

## COURSES UNDERTAKEN (till Nov. 2011):

- |   |                                    |
|---|------------------------------------|
| • Communication Systems                     | • Probability and Random Processes |
| • Signals And Systems                       | • Network Theory                   |
| • Microprocessors                           | • Data Interpretation and Analysis |
| • Digital Design                            | • Communications Laboratory        |
| • Analog Circuits                           | • Microprocessors Laboratory       |
| • Electrical Machines and Power Electronics | • Analog and Digital Laboratories  |

Also pursuing a **Minor** in Department of **Computer Sciences and Engineering**, and have done the following courses:

- |                                  |                                    |
|----------------------------------|------------------------------------|
| • Discrete Structures            | • Introduction to Machine Learning |
| • Data Structures and Algorithms |                                    |

## SPORTS:

- Participated in the 49<sup>th</sup> **National School Games** for **Lawn Tennis** in the U-14 group. Was **State Rank 4** (Madhya Pradesh). (2003-04)
- Participated in the **Kendriya Vidyalaya** Regional and **National Games** for **Lawn Tennis** in the U-14 group. Was **Regional Rank 2** (Jabalpur Region). (2004-05)
- Completed the **National Sports Organisation** (NSO) Course in **Lawn Tennis**. (2009-10)
- Played in **Squash GC**(team of 4), **Lawn Tennis GC**(team of 4), **Sophomore Football GC** (team of 5) and **Kho-Kho GC** as a part of the Hostel Team. (2010-11)

## EXTRA-CURRICULAR ACTIVITIES:

- Successfully made a Remote Controlled Race-Car in my 1<sup>st</sup> Semester at IIT.
- Stood 2<sup>nd</sup> in a Freshmen Inter-Hostel competition in "Pot-Pourri", a **literary** Club Event.
- Have interest in playing **Synthesizer** and Vocals.
- Was active with the NGO- **HelpAge India** and raised money for the benefit of old people.
- Play Card and Board Games (e.g. Poker, Chess), Pool, etc.