

---

## SCHOLASTIC ACHIEVEMENTS

- Secured All India Rank–2700 in All India Engineering Entrance Examination (AIEEE- 2009) amongst approximately 1,000,000 candidates (more than 99.99 percentile).
- Received Gold Medal Twice for standing first in school in National Science Olympiad (NSO-2006,2007).

---

## PROJECTS UNDERTAKEN

### Si Nanowire Solar Cells Research Project

[June-July 2011]

- Simulated Si Nanowires models for finding the optimizing conditions for achieving higher efficiency of **Si Nanowire Solar cells**.
- Learnt use of **SENTAURUS** for simulating electronic devices and implemented **EMW** method.

### Unique Identification Project

[Oct-Nov 2009]

*Guide: Prof. Deepak B. Pathak, Dept. of Computer Science Engineering IIT Bombay*

- Developed and documented a program to uniquely identify fingerprint of a registered student among a set and store the files in a separate directory using C++.

### Smart Blinds

[June-July 2010]

*Electronics Club IIT Bombay Summer Project*

- Designed and implemented a blind controller module which can set window blind's at desired angles so as to let light as per user's wish via a user friendly LCD interface and keypad.
- Developed code in C++ to detect inputs of the user through the LCD+keypad interface and accordingly rotate motors using Hall Effect sensors.
- Implemented PWM, UART communication, interrupts, timers in microcontrollers.

### DX-Ball

*Guide: Prof. Sachin Pathkar and Prof. Udayan Ganguly*

[Mar-Apr 2011]

- Designed and implemented a LED matrix based challenging fast reflexive game completely built on basic gates and ICs namely DX ball.
- Used only registers, clock and gates for simulating a bouncing ball in the matrix and also to control the bat.

### Nexus Navigate

[Oct-Nov 2010]

*Grid Solver Bot*

- Designed and build an autonomous bot which can traverse a 7\*7 grid fastest and bring a specific block back to the starting point.
- It involved writing code for the bot's action including various cases so as to finish the task earliest.
- Applied successfully IR sensors, gripping mechanisms, arduino, PID controls, PWM.

### ANALYSIS OF ELASTICITY OF OIL MARKET IN INDIA

[Feb-June 2011]

- Estimated the **Elasticity** of **OIL MARKET** in India using actual data spread over a period from 1986 to 2008 and analysed what are the factors which influenced the oil market.
- Required the use of the statistical software **STATA** for **Data Analysis** and **Regression**.

---

## OTHER TECHNICAL INVOLVEMENTS

- **Mentored** two Electronics Club Summer Project (**ECSP**) teams in successfully completing the respective projects namely IR-HARP and Electronic Dartboard.
  - IR Harp used **Direct Digital Synthesis** with arduino for producing sound waveform, shaping circuits were also implemented (sallen-key filter). Project was featured in orientation and is capable of playing different instruments.
  - Electronic Dartboard used **Image-Processing** for calculating the score on the dartboard. It used **CV blobs** library and colour segmentation for detecting blobs, different blobs were assigned different weights based on inclination and distance from centre.
- Competed in various technical competitions including **F1Race**(fastest remote controlled car), **Robocon**(fastest pyramid building bot), **Crossover**(fastest bridge building bot) and various inter-hostel Technical General Championships.
- **Mentored** first year students for **Line Follower** competition under Electronics club.

---

## SOFTWARE SKILLS

- **Softwares:** TCAD Sentaurus, Visual C/C++, Matlab, Scilab, LTSpice, Eagle, Mathematica, Quartus.
- **Languages:** C/C++, Verilog HDL, Assembly language of 8085, ngspice.
- **Web:** HTML, javascript, PHP, Drupal CMS, WAMP server.
- **Microcontroller:** WinAVR, Arduino.

---

## COURSES

- |  |                                    |
|--|------------------------------------|
| • Computer Programming and Utilisation       | • Network Theory                   |
| • Calculus, Algebra, Differential Equations  | • Machines and Power Electronics   |
| • Data Analysis and Interpretation           | • Microprocessors                  |
| • Economics, Energy Economics and Psychology | • Analog and Digital Circuits      |
| • Engineering Graphics and Drawing           | • Probability and Random Processes |
| • Foundations of VLSI CAD                    | • Signals and Systems              |
| • Communication Systems                      | • Electronic devices and Circuits  |

---

## POSITIONS OF RESPONSIBILITY AND EXTRA CURRICULAR ACTIVITIES

- Co-ordinated in **LAZER TAG**, a gaming event at TECHFEST. It involved smooth functioning of event and **huge** crowd management with a team of 6 organizers under me. [Jan 2010]
- I am a self-trained vocalist and I have delivered distinct performances at various western band events in the institute.