



saurabh suryavanshi
Electrical Engineering
Indian Institute of Technology, Bombay
Specialization: Microelectronics

08D07037
UG Third Year(Dual Degree)
Male
DOB: 28/09/1990

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2010	9.65
Intermediate/+2	Pune	RYK Science College	2008	91.00
Matriculation	Pune	APP High School	2006	85.23

Minor In Energy Engineering

Present Score-10

Scholastic Achievements

- **Department Rank 1 (Microelectronics)** in second year and received Academic Award for same
- Secured **All India Rank 264** in **IIT Joint Entrance Exam-** amongst 3, 20, 000 students (2008).
- Secured **State Rank (MH) 1** and **All India Rank 26** among over 8,00,000 in **AIEEE** (2008).
- **1st** in mathematics in **State 12th board exam** securing **100/100 (among 1 lakh students)** (2008).
- **1st** in mathematics in State engineering entrance exam **MH-CET** securing **100/100** (2008).
- Among top **1%** in **National Astronomy Olympiad** (2007).
- Secured **All India Rank 72** in **National Cyber Olympiad** (2006).

Awards and Scholarship Achievements

- Recipient of **Institute Heritage Fund Scholarship** for excellence in Academics at IITB (2010).
- Received prestigious **National Talent search Scholarship** by HRD ministry, India (2006).
- Recipient of **AIEEE Scholarship** for professional studies (2008).
- Selected for Interview for **KVPY** (Research Scholarship by Govt. of India) (2007).
- Was **Head Boy of School**, adjudged **the best student** of school (2005-06).

Summer Projects

Summer Project (Guide: Prof. Marayam Shojaei) (Summer 2009&2010)

- Analyzed Various Energy Harvesting options available
- Studied feasibility of Infrared antenna based Energy Harvesting
- **Simulated using Sentaurus, Fabricate and characterized** Moscaps and MIM diodes; nanofabrication facility CEN, IITB
- Studied work done in the field and came up with suggestions to achieve it.

Simulation of Solar cell (Prof. Anil Kottantharayil) (May 2010-till present)

- Simulated Solar cells in TCAD sentaurus Software.
- Modeled Solar cells for various dimensions and doping , emphasis on surface texturing
- Analyzed feasibility of various designs that can be used for solar cells manufacturing to get **high efficiency**.

Key Course Projects

Chess Game (Guide: Prof. Abhiram Ranade) (Sep-Nov 2008)

- Developed an **indigenous version** of the two player chess game using **C++** in **Linux** Environment with an attractive **Graphics User Interface**.
- Introduced **separate modules** for generating pieces **comprehensive use of classes and vectors**.
- **Advanced features** like checking valid move, checkmate were implemented.

PI Controller Using Discrete ICs (Guide: Prof. M.B. Patil and Prof. Swaroop ganguly) (Feb-Apr 2010)

- Designed PI controller using discrete ICs to control a DC-DC buck converter
- The controller is customized to work in closed loop constantly matching Output to Input by PI algorithm.

Heart Defect Analyzer (Guide: Prof. Vikram Gadre) (Mar-Apr 2010)

- Used Signal and System fundamentals to monitor heart attack which was appreciated
- Using Fast Fourier Transform included effect of ECG and PCG for better analysis of heart health
- Normalized heart rate and proposed a neural system to learn about the Individuals history and make prediction more accurate.

Communication Project (Guide: Prof. Subhasis Chaudhari and Prof. S.N. Merchant)

(July-November 2010)

- Did basic image processing using C++. It included implementing median filtering, mean filtering and edge detection algorithms
- Fabricated and characterized a RF amplifier using MAR4+ module having gain of 8 and Bandwidth of 20 Mhz
- Develop a algorithm to identify complex exponential with minimum number of samples. Also implemented MUSIC method in Matlab to extract frequencies from a signal with Gaussian noise

Designing Opamp in Cadence (Guide: Prof. Shalabh Gupta) (Mar-Apr 2010)

- Designed a Differential Opamp in 0.18um Technology having a closed loop gain of 5 and gain error of 5%. Voltage 1.8 volts with swing of 1.4 volts. Phase margin was limited to 55 degrees
- Further modified the structure to consume minimum power.

Skills

Languages: C++/C, Visual Basics

Operating Systems: Windows (XP, Vista, 7), Linux (beginner)

Software: Device Modeling and Device Simulation (TCAD Sentaurus), Tec plot, Ansys, LT Spice (circuit simulation), EAGLE, Matlab, Scilab, Cadence, Maxwell

Microcontroller: Atmel AVR, 8085

Positions of Responsibility

Hostel Secretary Maintenance (Jul 2009-Apr 2010)

- Responsible for maintenance of hostel 8, with 330 residents
- Handled budget of 60,000 INR.
- Initiated and developed a methodology to document the complaints and distribution of hostel properties

Mood Indigo Coordinator, Competitions (December 2009)

- Part of Competitions team for Mood Indigo 09
- Active member of the team responsible for the organizing competitions in Mood Indigo.
- Conceptualized and successfully organized solo singing competition. **Anchored** the same.

Techfest Coordinator, Marketing (January 2010)

- Part of Marketing Team of Techfest 2010, **Asia's largest college technical festival**
- Key member of the team responsible for maintaining relationship with corporate world in South India
- Was instrumental in **publicizing various Brands** through conducting competitions and lectures during the festival.

Key Extra Curricular Activities

Technical

- Conceptualized and built **Ornithopter** bot that would fly with help of wings as golden challenge for Techfest competitions.
- Designed a remote controlled **all terrain bot, line follower**
- Performed **Energy audit** of printing press of IIT Bombay

Cultural

- Was part of the **Runner up team** in Performing Arts Festival (**PAF**), (**Production**) **2009**, the largest Inter hostel cultural competition
- Was a part of hostel dance team for **Gyrations'09** (Institute Dance Competition), stood **fourth**.

Sports

- Was part of **Inter-IIT Hockey camp** (Dec 2009)
- **Captained winner team** in Sophie hockey inter hostel GC (among 9 teams)
- Interested in volley ball, chess, table tennis etc.