



Deeksha Sinha
Electrical Engineering
Indian Institute of Technology, Bombay
Specialization: Communication & Signal Processing

09D07009
UG Third Year(Dual Degree)
Female
DOB: 7/6/1991

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	9.28
Intermediate/+2	CBSE	Apeejay school, Nerul	2009	96.20
Matriculation	CBSE	Apeejay school, Nerul	2007	96.00

Academic Achievements

- Secured All India Rank (**AIR**) **366** in IIT Joint Entrance Examination (**IITJEE**), 2009.
- Secured All India Rank of **164** in All India Engineering Entrance Examination(**AIEEE**), 2009.
- Scored **330 on 350** in **BITSAT**, 2009.
- Received CBSE merit certificates for scoring **100/100** in Maths in class 12th and in Social Studies in 10th.
- Receiving **Dhirubhai Ambani Scholarship of Rs.27, 000** per annum for securing 5th position in the state in the 12th board examination.
- Was offered a **full fee waiver scholarship** from NIT, Warangal for doing B.Tech there.
- Secured **AIR 25** and state rank 4 in 8th National Cyber Olympiad in the first round (percentile score of 99.47) and AIR 41 in the final round.
- Secured **AIR 11** in the Maths Talent Search Examination , 2007 conducted by Indian Institute for Studies in Mathematics.

Work Experience

Summer Internship at SERC, IISc:

- Was among the 2% of students to be selected for a summer internship in the Supercomputer Department of the Indian Institute of Science, Bangalore.
- Studied the libraries available for performing calculations on the GPU and worked on the use of GPUs for medical image reconstruction.

Children's Technology Workshop:

- Examined the working of Lego kits , mainly the NXT microcontroller and made an attempt to use non-traditional sensors with the NXT.
- Studied basic micro-controllers which could be used by children and helped making electronics projects which could be easily taught and explained to children.

Important Projects Undertaken

GPU Computing:

- Explored the use of GPUs for the calculation intensive BLAS-2 (matrix-vector computations) and BLAS-3 (matrix-matrix computations) operations using CULA and CUBLAS libraries .
- Implemented these multiplication codes in an image reconstruction problem and compared the CPU and GPU performance on the Quadro 6000 and Tesla GPU. (<http://tinyurl.com/GPUComputing>)

DC Motor Encoder:

- Made an Encoder for a DC Motor and using it made a robot which traces any pre-defined path (could consist of moving forward, backward and rotating through any angle) fed into it.
- Also achieved speed control so that the robot maintained a constant speed irrespective of the surface on which it is moving (<http://tinyurl.com/DCMotorEncoder>).

Digital Calculator:

- Made a digital calculator to accomplish addition, subtraction, multiplication and division of single digit numbers using the basic tools of digital electronics i.e. flip-flops and adders.
- The state machine was also simulated using Verilog code (<http://tinyurl.com/CalculatorReport>).

Computer project and Robotics:

- Made the user interface in the project of a finger-print recognition system and made a library system using C++ for managing activities like issue, return of books, membership information.
- Made a wireless remote controlled car and a line follower using Atmega 16 Microcontroller.

Relevant Coursework (upto April, 2012)

- **Mathematics Courses:** Calculus, Linear Algebra, Differential equation, Complex Analysis
- **Advanced Electrical Courses:** Network Theory, Electronic Devices and Circuits, Digital Systems, Signals and systems, Analog circuits, Electrical machines and power electronics, Probability and Random Processes, Microprocessors, Communication Systems, Control Systems, Digital Signal Processing, Digital Communications, Power Systems, EM Waves
- **Computer Courses:** Discrete Structures, Data structures and Algorithms, Software systems lab, Computer Aided Geometric Design, Operating Systems

Positions of Responsibility

Internship Coordinator(2011- 2012) :

- Coordinating the recruiting and screening of summer and winter applicants to assist in the selection of interns via the Practical Training Cell, IIT Bombay.
- Responsible for contacting companies and universities who take interns from IIT Bombay.

Convenor of the Campus Radio, IIT Bombay (2010-2011) :

- Revamped its working and regularized the frequency of shows to 2 per week.
- Developed a base of 200-300 listeners atleast for each show and a maximum of >1000 listeners for a single show and organized an RJ Hunt competition for freshmen.

Apeejay School:

- **Literary Prefect** (2007-2008) , **Academic Prefect** (2008-2009) of Apeejay School, Nerul,
- **English Editor**(2007-2008) and **Hindi editor** (2008-2009) of the school magazine
- **Secretary** of the **School Youth Parliament**.

Software Skills

- Knowledge of **Windows** and **Ubuntu**.
- Comfortable with programming languages like **Qbasic** , **C++** and mathematical softwares like **Scilab**.
- Also have a basic knowledge of **Java**, **PHP** and **MySQL**.

Co-curricular Activities and Sports

- Was adjudged as the **Best Kathak dancer**(2003-2004) in the middle group and cleared **Prarambhik exam** in Kathak with 1st Grade , conducted by Akhil Bhartiya Gandharv Mahavidyalya Mandal.
- Was part of the team Representing the school in the **Inter Apeejay Cultural Meet** , 2001 , **Inter Apeejay Literary Meet**,2005 and **Inter Apeejay Sports Meet**, 2006.
- Selected for the **Inter-IIT training camp** in Table-tennis and represented school in various **Table-Tennis** tournaments