Abhishek Bhowmick
Electrical Engineering
Indian Institute of Technology, Bombay

09007015
UG Third Year (B.Tech.)
Male
DOB: 30-06-1990

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.54
Intermediate/+2	Maharashtra State Board	Mithibai Junior College	2009	92.17
Matriculation	Maharashtra State board	Children's Academy High School	2007	91.23

ACADEMIC ACHIEVEMENTS

- Secured **All India Rank 101** among more than 3,80,000 students in IIT-JEE 2009
- Currently pursuing an **Honors** degree along with B.Tech Degree
- Awarded **Undergraduate Research Award** by IITB for research under **URA program**
- **State scholarship** recipient in **Maharashtra Talent Search Examination** 2006
- Awarded **Silver medal** in Homi Bhabha Young Scientist Examination held in 2006

RELEVANT COURSES UNDERTAKEN

(To be completed by April 2012)

Graduate level

- VLSI Design
- Mixed Signal VLSI Design (honors)
- Advanced Computing for Elec. Engg. (honors)

Undergraduate level (* indicates laboratory component or parallel lab course)

- Microprocessors and Computer Architecture *
- Digital Signal Processing
- Analog Circuits *
- Communication Systems *
- Signals and Systems
- Digital Systems Design *
- Electronic Design Lab *
- Control Systems *
- Probability, Stochastic Processes
- Electrical Machines *
- Power Systems/Electronics

PROJECTS / RESEARCH EXPERIENCE

1. **Analysis of Network on Chip Architectures** *Guide: Prof. Sachin Patkar*
   (Supervised Research) *(December 2011 - present)*
   - Carried out literature survey of NoC systems, learned Bluespec and SystemC for modeling and analysis of NoC
   - Objective is to implement LDPC decoders using suitable NoC architectures and evaluating performance metrics like latency, throughput

2. **Ground Penetrating Radar** *Guide: Prof. Girish Kumar*
   (Undergraduate Research Project) *(May 2011 – December 2011)*
   - Co-developed a compact 920 MHz GPR for detecting underground metallic objects
   - Surveyed literature, got familiar with an existing 920 MHz prototype, implemented data acquisition and used MATLAB for signal processing and graphical display
   - This project was done under URA program of IIT Bombay

3. **Automatic Vehicle Locator** *Guide: Prof. Girish Kumar*
   (Summer Internship at Wilcom Technologies) *(May 2011 – July 2011)*
   - Designed a vehicle locator using a GSM modem with GPS functionality
   - Developed the hardware and software for the first version which has standard features like SMS based tracking, onboard memory, Google maps support etc

4. **FM – UWB Communication System** *Guide: Prof. S.N. Merchant*
(Course project: Communication Systems Lab) *(July 2011 - Present)*
    - Developed an ultra wide-band FM system for low power wireless data transfer

5. **BCH Encoding/Decoding** *Guide: Prof. V. Saravanan*
(Course project: Advanced Computing for Elec. Engg.) *(July 2011 - Present)*
    - Successfully implemented an error correction algorithm in C++ using BCH block codes

6. **Synchronous CDMA** *Guide: Prof. Sachin Patkar*
(Course project: Digital Systems Lab) (*January 2011 – April 2011)*
    - Built a CDMA communication system using digital blocks and modeled it using Verilog

7. **Mini UID** *Guide: Prof. Deepak Phatak*
(Course Project: Computer Programming) *(July 2009 – November 2009)*
    - Part of team that built a software in C++ which uses fingerprints for Unique ID app
    - Wrote the code for fingerprint feature extraction and storage
    - Developed and implemented an algorithm for removal of false positives

8. **Target Acquisition and Shooting** *(Electronics Club Summer Project)*
(Hobby Project: Electronics Club) *(May 2010 – June 2010)*
    - Built an automatic laser pointing mechanism which processes captured images of a target and focuses the laser on the target
    - Carried out electronic hardware assembly, microcontroller coding and image processing using OpenCV, a library for computer vision

POSITION OF RESPONSIBILITY

Hostel Technical Activities Secretary *(August 2010 – March 2011)*
- Coordinated the participation and entries of my hostel in all Inter hostel technical competitions and secured a podium finish in Coding GC
- Implemented sensor based automatic lighting in hostel bathrooms, leading to reduction in electricity consumption

TECHNICAL/SOFTWARE SKILLS

Programming : C++, MATLAB, Verilog, Bluespec, SystemC
Design/Simulation : Ngspice, Magic, Cadence IC design, Eagle, NI Multisim
Familiar with : Python, Linux Shell Scripting, CUDA (NVIDIA GPU programming)
μControllers/Processors: AVR Atmel family, 8051, 8085 (assembly language)

I have also made/done the following:
- RF Transceiver Design using CC1101 chip at sub-GHz frequencies
- Grid following robot with block lifting mechanism

AWARDS/HONOURS

- Awarded Hostel 6 '**Special mention for Technical Activities**' for 2010 - 11
- **Student reporter** for NIE, student newspaper of the **Times of India Group**, 2006-07
- Won awards in many quizzes, literary events etc

***References available on request**