Curriculum Vitae

Mohit Gupta

Bachelor of Technology
Electrical Engineering Department
Indian Institute of Technology Bombay
Mumbai

Room no.108, Hostel 6
IIT Bombay,Powai
India – 400076
91-9819417908
mohitgupta@iitb.ac.in
mohitgupta@ee.iitb.ac.in

Academic Record:

Institution	Certificate	Year	Percentage
IIT Bombay	Bachelor of Technology	2006(6^{th} Sem)	9.36(Scale of 10)
D.A.V College	Higher Secondary	2003	85.6%
St. Xavier's School	Secondary School	2001	91.5%

Achievements:

- Recipient of **IIT Bombay Heritage Scholarship** for the last three years.
- Secured an **All India Rank** of **43** in the **IIT** Joint Entrance Exam 2003.
- Secured an **All India Rank** of **8** in the **AIEEE** Entrance Exam 2003.
- Secured a **Rank** of **1** in the CET conducted by Punjab University, Chandigarh.
- Ranked **3rd** in North-West India Region in Regional Mathematics Olympiad 2002.
- Currently Ranked **6^{th}** in the Department.

Research Experience:

B.Tech Project
Topic: BroadBand Scheduling over Wireless networks along with opportunism Ongoing
Guide: Prof. Abhay Karandikar, IIT Bombay

Studied various policies to schedule users along with opportunistically beamforming them with the help of multiple antennas and exploiting multi-user diversity and channel variations. Developed a heuristic to schedule multiple users in a multi channel environment. The complexity was reduced considerably. To reduce the feedback, I suggested quantization.

Summer Internship
Topic: Matlab Implementation of Channel Models (May-July 2006)
Guide: Prof. Andreas Molisch, MERL Technology Lab and Prof. Fredrik Tufvesson, Radio Systems Group, LTH, Sweden.

Worked on a number of channel models used for wireless communication modeling. The task involved understanding of the wireless modeling concepts, channel models and the distinct features specific to them and then provide a complete implementation in Matlab incorporating every feature of the model. The models worked upon were – Hiperlan model, IEEE 802.16, GSM model, COST 207, 3GPP, COST 273 and various path loss models.

B.Tech Seminar
Topic: Opportunistic Transmission Scheduling in Wireless Networks (Jan-April 2006)
Guide: Prof. Abhay Karandikar, IIT Bombay

Researched the literature on the various opportunistic scheduling policies in wireless networks. An exhaustive survey on the various policies was done which had different objectives and constraints. A heuristic policy for short term scheduling was proposed on the lines of a given long term policy, which met with the performance metrics.

UROP:
Topic: Analysis of NBTI (Negative Bias Temperature Instability) in pMOS devices (Jan - June 2005)
Guide: Prof. Souvik Mahapatra, IIT Bombay

Studied the behavior of pMOS devices under varying gate stress and the effect of impurities. A literature survey on the existing techniques to measure threshold voltage was done. Designed a set up for interfacing devices with circuits via a GPIB and automatically gather data and post process it so that fast threshold readings can be taken.

Electronics Design Lab
Topic: Fan Regulator with integer cycle control (Jan-April 2006)
Guide: Prof. P.C. Pandey, IIT Bombay

The project involved designing a fan regulator which could control the speed of a fan using the principle of integer cycle control as against the conventional phase control. I was member of a team of three students that prepared a working model which had a keyboard for input and a LCD to display the modes, speeds. Features for a linear profile setting, line voltage regulation were also incorporated.

EPROM based Waveform Generator: (Jan-April 2005)
Guide: Prof. M C Chandorkar and Prof M B Patil, IIT Bombay

Was a part of a team of three students that designed a circuit to generate pre-specified waveforms of a certain frequency. An EPROM was used onto which data points had been stored. Memory required was optimized by exploiting symmetry of waveforms and incorporating the logic in the circuit.

Relevant Courses:

- Communication Systems, Digital Message Transmission, Microprocessors
- Electromagnetic Waves, Analog Circuits, Control Systems, Operating Systems
- Electric Machines, Power Electronics, Electrical Energy Systems
- Digital Circuits, Network Theory, Signals and Systems, Linear Algebra
- Advanced Programming and Algorithms, Differential Equations, Calculus

Software Proficiency:

C, C++, FORTRAN, Shell, Windows, Linux, MATLAB, Simulink, Pspice, ANSYS, 8085 and 8051 programming.

Organizational/Extra-Curricular Activities:

- Member of the technical team for **Aagomani 2006**, a workshop on Supercomputers and High Performance Computing.
- Was a member of the technical team for **Aagomani 2005**, a workshop on CDMA Technology.
- Worked as a Co-ordinator in **Techfest 2005** and was an integral member of the team that conducted events like CRO, Power Boats and Contraption.
- Worked as an Organizer for **Aagomani 2004**, a workshop on Embedded Systems and DSP.
- Worked as the **School Vice Captain** for my school in the year 2000-2001.
- Represented my school in various quiz contests at inter-school and inter-state level.