



Kumar Goutam
Electrical Engineering
Indian Institute of Technology, Bombay
Specialization: None

100070023
UG Third Year (B.Tech.)
Male
DOB: 29th Sep 1992

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	9.65
Intermediate/+2	CBSE	Subhash Public School, Giridih	2010	94.00
Matriculation	CBSE	R.K.Mission Vidyapith, Deoghar	2008	97.40

ACADEMIC ACHIEVEMENTS

- Currently ranked among **Top 10** in the **EE Department** out of about 130 students as per core CPI
- Secured **AIR – 60** in **IIT JEE 2010** out of about 0.5 million candidates appeared
- Secured **AIR – 93** in **AIEEE 2010** and **State Rank 3** out of about 1 million candidates appeared and thus receiving **CBSE Merit Scholarship** for Engineering Stream
- Secured a grade of **AP** (awarded for the **exceptional performance** in Institute Core Course) in two courses - Differential Equations and Differential Equations II
- Recipient of **Merit cum Means Scholarship** for Engineering studies by N.S. Foundation, Mumbai
- Awarded **Certificate of Merit** by CBSE for being in the **Top 0.1%** students in Maths (100%) and Social Sciences (99%) (**X Board**) and in Maths (99%) and Physics (99%) (**XII Board**)
- Awarded the prestigious **KVPY scholarship** – 2009 based on Aptitude Test and Interview
- Awarded **Certificate of Merit** for being placed in the **National Top 1%** in National Standard Examination in Astronomy (**NSEA**) 2006 conducted by Indian Association of Physics Teachers
- Awarded **Certificate of Brilliance** and Cash Award in **AITSE-2005** conducted by ICEF
- Secured **AIR-4** in the **National Science Talent Search Examination** by Unified Council in 2009

ACADEMIC AND TECHNICAL PROJECTS

- **Organic Solar Cells** [Apr '12 - present]
Guide: Prof J. M. Vasi and Prof P. R. Nair under NCPRE
 - ✓ Familiarized with the underlying Physics and basic theory of working of Organic Solar Cells
 - ✓ Studied about the effects of introducing Traps on Charge Storage Exponents and Ideality Factors in Bulk Hetero-junction Solar Cells using the simulator software **Sentaurus**
 - ✓ Currently developing a physically and mathematically feasible model for the same
- **Snake Game** [Spring '12]
Guide: Prof M. B. Patil and Prof Joseph John [Digital Lab Project]
 - ✓ Developed the familiar Snake Game using LED Matrices for display and a remote for control
 - ✓ Programming was done in Verilog based on Altera Quartus and the inputs from the user and the outputs to the display were interfaced using the DE0-Nano **FPGA** board
- **OPAMP Design** [April '12]
Guide: Prof Anil Kottantharayil [Analog Lab Mini Project]
 - ✓ Designed a five-staged Differential Operational-Amplifier with given specifications
 - ✓ Circuit was first simulated using LTSpice and then implemented on a breadboard

- **Bloxorz Game** [Autumn '10]
Guide: Prof. D. B. Phatak [Course Project]
 Made the game "Bloxorz" using C++ and EZWindows library for graphics in a team of 13
- **Device Opening** [March '11]
Guide: Prof. J. M. Vasi
 Studied the interior details and working of a simple Walkman for term paper

WORK EXPERIENCE

- **"Teaching Assistant"** for the following courses at IIT Bombay for First Year Undergraduates
 - ✓ MA 105 (Calculus) Autumn '11 and Autumn '12
 - ✓ MA 106 (Linear Algebra) Spring '12
 - ✓ MA 108 (Differential Equations) Spring '12
 Placed in charge of teaching and helping about 50 students, conducting weekly classes and tutorials and evaluating examination answer scripts
- Coordinator for Lecture Series in "Techfest 2012" Annual Technical Festival of IIT Bombay

SOFTWARE PROFICIENCY

- **Programming Languages** : HTML, C++, Verilog, Assembly
- **Design and Simulation Software** : SPICE, Sentaurus, Quartus
- **Packages** : MATLAB, Latex, Labview

EXTRA-CURRICULAR ACTIVITIES and OTHER ACHIEVEMENTS

- Awarded "Special Prize for Class Captain" consecutively for 5 years ('03 – '08) in school
- Stood 1st in many "Recitation Competitions" in 3 different languages (Hindi, English and Sanskrit)
- Received **3 Gold Medals** by School for **outstanding performance** in AISSE-08 (X Board)
- Secured **AIR-8** in the 7th **National Science Olympiad** conducted by SOF in the year 2005
- Awarded National Level **Certificate of Merit** by Children's Education Trust for **excellent performance** in AITSE in the years 2004, 2005 and 2006

COURSES COVERED (By April '13)

- Core Courses : Microprocessors, Communication Systems, EM Waves, Image Processing, Probability and Random Processes, Digital Signal Processing, Control Systems, Power Systems, Digital Communications, Signals and Systems, Analog Circuits, Digital Systems, Electrical Machines and Power Electronics, Network Theory, Electronic Devices and Circuits
- Maths Courses : Calculus, Linear Algebra, Ordinary and Partial Differential Equations, Real Analysis, Complex Analysis, Fourier Analysis, Multivariable Calculus (pursuing **Minors in Maths**)
- Other Courses : Data Structures and Algorithms, Data Analysis and Interpretation, Psychology