

**EDUCATION**

Program	Institution	%/CGPA	Completion	Rank
B Tech + M Tech in E&ECE (Specialization: VLSI)	Indian Institute of Technology Kharagpur	9.22/10	May, 2011	6(Inst. Rank) & 3(Dept. Rank)
XII- AISSCE	Don Bosco School, Alaknanda, New Delhi	92.8	2006	1
X-AISSE	Don Bosco School, Alaknanda, New Delhi	94	2004	4

**Technical Sills: Languages:** C, C++, JAVA, Matlab, Verilog HDL, VHDL | **Analytical Skills:** SDLC, UML, Design Patterns, RDBMS  
**Courses Taken:** Algorithms, Computer Architecture & Operating System, Data Structures, Machine Learning, Probability and Stochastic Processes, Differential Equations, Matrix Algebra, Numerical Analysis, Industrial Economics, Industrial Management

**PROJECTS****M.Tech / B. Tech Thesis**

july '10 – present

**Title: On-chip switch capacitor based DC-DC buck conversion for 12V – 5V conversion.**

under Dr. Pradip Mandal

- Complete on-chip implementation of the proposed converter to save space and deliver higher power density.
- High efficiency (70%) for wider load current (100 to 500mA) and very low ripple (< 1%) achieved using hybrid frequency & current regulation, non-overlapped time interleaving scheme and intelligent use of Vdd/2 and 2Vdd/3 architecture.

**Other Academic Projects****Title: On-chip switch capacitor based DC-DC buck conversion for 3.3V – ±0.6V conversion.**

under Dr. Pradip Mandal

- The project has been offered to us by **SiWays Microelectronics** and is still in its nascent phase.
- Embedded power converter to get ±0.6V dual rail output wrt original ground to drive medium load current.

**Title: Generating Sum of Product form for outputs from a given Netlist**

under Dr. Indranil Sen Gupta

- Wrote a parser in C++ to convert the given netlist in ISCAS-85 benchmark format to Verilog.
- Derived SOP form by representing the netlist in the form of a linked Data Structure.

**Title: Neural Network Based Hand-Written Numeral Recognition Software**

under Dr. Sudhir Kumar Barai

- Wrote a MATLAB code to recognise handwritten numerals with > 90% accuracy and won third place at Envision '09.

**PUBLICATIONS**

- "Correlates between Performance, Prosodic and Phrase Structures in Bangla and Hindi: Insights from a Psycholinguistic Experiment", Accepted for presentation at **7<sup>th</sup> International Conference on Natural Language Processing, 2009**.
- "Prosody Based Cues for Classification of the Discourse Particle "hā" in Hindi", accepted at **Interspeech 2010, Tokyo**

**INTERNSHIPS/PROFESSIONAL EXPERIENCE****Siemens Information System Ltd. (Div.: Corporate Technology), Bengaluru, India**

may '10 – july '10

**Title: Hardware for "Single Pixel Camera" - Compressive Sensing.**

under Varun AV

- Programmed a Virtex-5 FPGA for controlling a digital micro-mirror device, data acquisition and IO interface via USB
- Proposed using the same setup for infrared imaging and spectrum analysis, which was well appreciated and was offered PPI

**Microsoft Research Labs India Pvt. Ltd. (Multilingual Systems Group), Bengaluru, India**

may '09 – july '09

**Title: Prosody based classification of utterances of the Hindi word "haaN".**

under Dr. Kalika Bali

- Identified the distinct prosodic cues associated with various types of utterances and used it for k-means clustering
- Achieved a **60% efficiency** in a three way classification, which was a big improvement than at random classification

**Dept. of ECE, University of Colorado, Boulder, USA**

under Dr. Frank Barnes

may '08 – july '08

- Prepared BaTiO<sub>3</sub> pellets for usage as super-capacitor ( $\epsilon > 6000$  & breakdown voltage strength > 100,000 V/cm)
- Designed high torque, high efficiency motor for International Future Energy Challenge, 2009, which won 2 of the 6 awards

**POSITIONS OF RESPONSIBILITY****Student Advisor of Entrepreneurship Cell, IIT Kharagpur**

september '06 - present

- Organizing team member of E-Summit 2006, '07, '09(as Student Manager) & '10(as Coordinator).
- Sponsorship team head** for E-Summit '09 and brought a sponsorship amount of **4 lakhs**.
- Initiated and promoted **Fund-A-KGPian, Entrepreneurship Awareness Drive** and setting up of a **VC panel** for mentorship.

**EXTRA-CURRICULAR/CO-CURRICULAR ACTIVITIES**

- Finalists at **GE Edison Challenge, 2009** at John F Welch Technology Centre (one of 18 teams from all over India)
  - Had to visit a nearby village to interact with the villagers, assess their power situation and propose a solution.
  - Designed an AC-Coupled Microgrid using renewable energy and laid down the power electronics for the interface.
- Part of **Guest Reception** team of Illumination '10 of Rajendra Prasad Hall of IIT Kharagpur, which went on to win **gold**.
- Finalist at **Anadigix**(the circuit design contest) and **Overnite** (the programming contest) at **Kshitij-2009**.
- Completed **Senior Diploma** in **painting** from Ankan Kala Bibhag, Bangiya Sangeet Parishad
- Participated in **West Bengal State Taekwondo Championship** in 1995 and **Delhi State Table Tennis Championship** in 2001.