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Education:

Qualification	Institute/Board	Year	CPI/Percentage
B.Tech-M.Tech (Dual)	IIT Kanpur	2008-till date	**9.0**/10.0
Class XII	CBSE	2008	92.4/100
Class X	CBSE	2006	93.0/100

Scholastic achievements

- Ranked **341 (99.89 percentile)** students all over India in IIT-JEE 2008.
- Ranked **229 (99.97 percentile)** students all over India in AIEEE 2008 and awarded a scholarship.
- Awarded the **Academic Excellence Award** for the year 2008-09 for good academic performance in IIT Kanpur.
- Received **Merit Certificate in Physics** in Class XII CBSE board exams for being amongst top 0.1% students all over India.
- Received Certificate of Merit in **National Standard Examination in Chemistry** (NSEC) 2007-08 and qualified to appear for the Indian National Chemistry Olympiad (Theory) 2008.

Internships

- Developing a prototype system to provide Analytics on the Cloud
  IBM Extreme Blue Internship: Team of four (May-July 2011)
  Mentor: Deepak S Padmanabhan, IBM India Research Lab, Bangalore
  - ❖ **Goal** is to provide a cloud based service for defining and executing predictive analytics workflows focusing on ease of use, minimal startup cost and flexible pricing based on usage
  - ❖ A client expecting analytic solutions can upload data sources and choose among configurable pre-defined workflows.
  - ❖ A **workflow** is a flow chart representation of the various steps in analytics performed by SPSS.
  - ❖ **Configurable workflows**: Handles variability in data models by providing entry points corresponding to different stages of data preparation like data merging data and data aggregation.
  - ❖ The configured workflow runs on **IBM SPSS Modeler on the server** present on the cloud and gives results back to the customer.
  - ❖ System was built using JS, Java Servlets, IBM SPSS scripts and Dojo toolkit.

- Building a forum for the listeners of a **Community Radio Station** through a **Voice Application**
  (May-July 2010)
  Guide: Dr Aaditeshwar Seth, Computer Science Department, IIT Delhi
  - ❖ Developed an **IVR** (Interactive Voice Response) System using **Asterisk** which is an open source software implementation of a telephone PBX (Private Branch Exchange)
  - ❖ Recorded messages and caller details in a **MySQL** database
  - ❖ An interface was provided for the moderator using **JSP** (Java Server Pages) **and Python**
    The project is being implemented at **Gurgaon Ki Awaaz Samudayik Radio Station** in Gurgaon.

- Developing an interface for **MapServer** application & understanding working of **MapLab** with **PostgreSQL**
  (June-July 2010)
  Internship Guide: Dr P. Chaudhary, Scientist, DTRL, DRDO(Defence R&D Organisation)
  MapServer is an open source development environment for building spatially-enabled internet applications and MapLab is a tool for managing mapping applications and mapfiles.
  - ❖ Developed an interface to view simple maps from **Mapfiles** with features like **Zooming & Panning using PHP** scripting language
  - ❖ Integrated a PostgreSQL database with MapServer and displayed maps using **sample spatial data.**

Projects

- **Stock Price Direction Prediction** (September-November 2011)
  Guide: Dr Krithika Venkataramani, IIT Kanpur
  - ❖ **New indicator attributes** were created from the available data to achieve better results.
  - ❖ Predicted daily stock price direction for Indian stocks using **SVMs and decision tree classifiers** with an **accuracy of around 65%**.
  - ❖ Also **predicted weekly trends** in prices with an **accuracy of around 70%**.
  - ❖ Input data involved opening, closing, high and low daily prices of stock along with volume traded.

- **Viral Marketing using Social Network Mining** (September-November 2011)
  Guide: Dr Arnab Bhattacharya, IIT Kanpur
  - ❖ Viral Marketing is spreading the word about a product from one person to another like a virus. **Much more profitable** approach to companies than direct marketing.
  - ❖ A set of most influential people are selected from a social network based on their network value.
  - ❖ **Network value was defined in a novel way** so as to incorporate various aspects such as number of friends, strength of the friendships and how influential the friends are.
  - ❖ Collected social network data from Facebook & Epinions social networks and performed experiments to calculate network value of customers.

- **Improving time of algorithm for achieving k-anonymity in high dimensional data**(September 2011-in progress)
  Guide: Dr Arnab Bhattacharya, IIT Kanpur
  - ❖ Analysed various methods which can be used to achieve improvement in time for achieving k-anonymity in high dimensions while **preserving the privacy of data and data integrity**.
  - ❖ Currently, experimenting on a method **based on splitting the attribute set and performing some k'-anonymity** on each set to achieve an overall k-anonymity.
  - ❖ Significant improvement in time was observed while following the above approach using Mondrian's algorithm in high dimensions.

- Developing a **compiler for C** (January-April 2011)
  Guide: Amey Karkare, IIT Kanpur
  - ❖ In a team of five, developed a compiler for **C to MIPS assembly code using C** as implementation language.
  - ❖ Played major role during coding and in the initial design of the project.
  - ❖ Important features of C implemented: Multi-dimensional arrays, printf() function, type checking, scoping and function calls apart from the basic C features.

- Coding a bot for **detecting movable objects in a 2D grid** (March-April 2011)
  Guide: Dr Harish Karnick, IIT Kanpur
  - ❖ The bot was coded in Python language to sense its environment and navigate the grid.
  - ❖ The objects could move with a probability whenever sensed by the bot.
  - ❖ The bot provided the location of the found objects and the total number of objects in the arena.

- Developing a **file sharing** and **P2P video streaming** application(August-November 2010)
  Guide: Dr Dheeraj Sanghi, IIT Kanpur
  - ❖ For file sharing, a central server was maintained which maintained file upload and download of various users.
  - ❖ For video streaming, a tracker was designed which kept data about all available video links among the users connected to the system. A user can demand a video and it will be played on VLC media player at the client as it is streamed from another user.

- Automated Hospital Management System (January-April 2011)
  Guide: Dr Sumit Ganguly, IIT Kanpur
  - ❖ In a group of two, designed and implemented a hospital management system providing easy access to all kinds of data relevant internally to a hospital.
  - ❖ Provided appropriate views authorised access of data for patients, doctors and receptionist.

- ❖ The software managed details like medical stock, locating empty wards, generating bills, medical history of in-patients and doctor's availability.

- Simulation and analysis of various features in OS (August-November 2010)
  Guide: Dr Sumit Ganguly, IIT Kanpur
  - ❖ Analysed system calls and scheduling algorithms using OS stimulator NACHOS.
  - ❖ Implemented and analyzed performance of different mutual exclusion algorithms.
  - ❖ Simulated and evaluated page replacement algorithms for memory management and a fully associative TLB.

Technical Skills

Programming Languages	Java, Python, C/C++, Oz, Prolog, x86 assembly
Tools	MATLAB, GNU Octave, LaTeX, Lex, Yacc, Make, Shell

Relevant Courses

Data Mining	Modern Cryptology
Principles of Database Systems	Compiler Design
Computer Networks	Operating Systems
Discrete Mathematics	Data Structures and Algorithms
Theory of Computation	Principles of Programming Languages
Artificial Intelligence Programming	Introduction to Computer Organisation

Extra-Curricular Activities

- Won **Third** Prize in **JK White Design Challenge** in Techkriti'10 (annual Technical and Enterpreneurship festival of IIT Kanpur)
  Found out an eco-friendly and innovative usage of white cement using bamboo fibres and made several samples after collecting data.
- **Assistant Coordinator, IOPC** (International Online Programming Contest) in Techkriti'10.
  Managed more than 1000 teams taking part in the event from around the globe and was also involved in its publicity.