Areas of Interest

- Theoritcal Computer Science, Data Structures and Algorithms
- Databases, Compilers, Operating Systems,
- Applications of Probability Theory and Statistics, Machine learning

Scholastic Achievements

- Awarded **Gold Medal** in *Indian National Physics Olympiad* **(InPHO)** for being one of the **top 35** students in the country and also attend the selection camp for the International Physics Olympiad conducted at **HBCSE** Mumbai.
- Secured All India Rank **63** in **IIT-JEE** out of nearly 4,00,000 students.
- Secured All India Rank **20** in **AIEEE** out of nearly 11,00,000 students.
- Awarded the All India **CBSE** Merit scholarship, given to the top 300 students in the AIEEE
- Awarded the certificate of merit for being in the top 1% in *Indian National Chemistry Olympiad* **.**
- Selected for the *National Intiative on Undergraduate Science (*NIUS**)** Camp for physics held at **HBCSE**(*Homi Baba Center For Science Education*) and also got a project in the field of *quantum physics* funded by them.
- Currently working as **Teaching Assistant (T.A)** in *Computer Programming Course.*
- Worked as **Teaching Assistant (T.A)** in *Data analysis & Interpretation Course*(Statistics).

Key Projects

- ***Heuristic Reconstruction of Cliques from Langrangian Relaxed Solutions***:-

  [Summer Intern 2011] [Intern at INRIA-Sophia Antipolis France]

  [advisor: Noel Malod-Dognin (ABS group)]
  - ➢ Designed and Implemented various heuristics for specialized 2D ordered Graphs and tried used them for repairing the lagrangian relaxed solutions.
  - ➢ Implemented the Graph class and the heuristic using *boost libraries* in **C++.**
  - ➢ Tested the heuristics rigoursly by running them using *python* scripts.
- ***Travelling Salesman Problem*** :-

  [November 2010] [Guide:-Om Damani (IIT bombay)]
  - ➢ Implemented a GUI for solving the Travelling Salesman Problem using various heuristics
  - ➢ Implemented a brute force Algorithm for exact solving and then compared time and results among all the heuristics in **C++**
- ***15 puzzle or sliding puzzle solver(in Scheme)***:-

  [March 2010][Guide:-Prof Amitabha Sanyal (IIT Bombay)]
  - ➢ Implemented a *GUI* for playing the game and for computerized solving in minimum steps
  - ➢ Implemented the *A* Algorithm* for solving the puzzle and getting to solve the puzzle in minimum number of steps and did various optimizations for making it fast

- ***Quantum error Correction Codes(NIUS project)***:-
  [Decemeber 2010] [Guide:-Prof P Panigrahi (IISER Kolkatta)]
  - Studied Literature in the area of *Quantum computations* and the errors in transmission
  - Analysed various new publications in the area of *Quantum error correction*
  - Tried to design a new *Quantum error correction* code for specialized type of entanglement

- ***Mini UID Project (In C++)***:-
  [November 2009] [Guide;-Prof Deepak B Pathak]
  - Worked to give a mini Uid for each resident in the campus based on their fingerprints for varifying it
  - Implemented and optimized ***Zang Suen*** Algorithm for thining finger prints and recognizing minutiae

Computer Skills

- <u>Paradigms of Programming learnt</u>:- Functional, Logic, Imperative, Object Oriented
- <u>Programming Languages</u>:- C,C++, Java, Python, Scheme, Prolog etc
- <u>Web Programming</u>:- Javascript, PHP, Ajax, Django API etc
- <u>Softwares</u> :-Matlab, Office, Latex etc
- <u>Operating Systems</u>:-Windows, Linux(Ubuntu, Fedora(red hat))

Important Courses Taken

- ***Department Courses***:-
  Design & Analysis of Algorithms, Data Structures & Algorithms, Discreet Structures, Logic Design, Automata Theory, Abstractions & Paradigms of Programming, Software Systems Lab, Operating Systems* , Databases* , Computer Architecture*, Artificial Intelligence[+], Compliers[+], Computer Networks[+], Embedded Systems Lab[+]
- ***Honor Courses***:-
  Graph Theory, Computer Graphics*
- ***Minor Courses(Statistics and Informatics)***:-
  Introduction to Probability, Statistical Inference*,Animation(not related to Statistics)

  *Courses currently pursuing, they are also have their respective labs(Except minor)

  [+] Courses pursued in next semester, they also have their respective labs

Position of Responsibility & Extra Curricular Activities

- Worked as Coordinator & Organiser in ***TechFest*** (technical Festival Of IIT Bombay).
- Worked as Organiser in ***E-Summit*** (Fest of Entrepreneur Cell Of IIT Bombay).
- Selected for NSO Hockey in Freshmen year and played in the team for Hostel GC.
- Avid programmer, participated in many ***topcoder*** srms.

Declaration

I hereby Declare that the information given above is true to the best of my knowledge, as of August 2011.

D V Deepankar Reddy