Major Projects and Seminar

- **Power Management in Virtualized platform**
  (M.Tech Project, under the guidance of Prof. Varsha Apte) *[May 2015 - Ongoing]*
  - *Objective:* Measurment and Analysis of power consumption of server in virtual platform, analysis of strategies to reduce power consumption.
  - *Approach:*
    - Development of tool to track and analyse power cosumed by a server.
    - Processing and Corelation of data related to performance of server and data related to power consumption of server.
    - comparision of power reductioon strategies on the basis of feasibility and on the basis how much they affects performance of the system.
  - *Future work:* Devlopment of Power Management tool for Virtualized system to manage power efficiently.
- **Virtualization and Power Management in Virtalized Platform**
  (M.Tech Seminar, under the guidance of Prof. Varsha Apte) *[Jan 2015 - April 2015]*
  - Surveyed various virtualization technologiies and studied comparison among them.
  - Discussed the challenges presented in these Virtual platforms.
  - Surveyed Power Management techniques on virtualizzed platform.

Course Projects

- **Simulation Analysis of Web Application** *[CS681 Performance Evaluation of Computer Systems and Networks]*
  (Guided by Prof. Varsha Apte, Spring 2014)
  - Goal : Study the performance of web application through Discrete evant Simulation.
  - Technology/Languages/Tools python,tsung,GNUplot.
  - Description This project simulates the behaviour of traffic on web server using discrete event simulation model and then its performance is compared with real web server by changing different parameterms such as arrival rate, departure rate, context switch time, queuing delay, timeout, think time, numbers of users.
- **Extract information of RSS and WSS of a Process in linux kernel by desgining a loadable kernel module**
  [CS401 Kernel Programming]
  (Guided by Prof. Purushottam Kulkarni Spring 2015)
  -Implemented loadable kernel module with logic to find out the size of rss and wss by using Paging herarchy and page entry clear bit and set bit.
- **Instrument the scheduler functions (with hooks) to generate scheduler-level and process-level statistics**
  [CS401 Kernel Programming]
  (Guided by Prof. Purushottam Kulkarni 2015)
  - Implemented loadable kernel module and hooks.
  - Scheduler level statistics Experiments: Load vs Context Switches, Run Queue length distribution per CPU, Number of Migrations across CPUs, Experiment with scheduling priorities, context switches vs time, No. of migration.
  - Process level Statistics : Number of context switches, Variation in dynamic priority of the process, CPU mapping distribution of process, Experiments with CPU affinity of process.

B.Tech Project

- **A protocol to manage replication in replicated distributed datanase** (with R. K Dwivedi) *[July 2012 - May 2013]*
    - Modified a protocol to make write and read operation more efficient in terms of time complexity without affecting fault tolerance of system.

M.Tech. Courses

- Algorithms and Complexity
- Kernel Programming
- Advanced Computer-Network
- Artificial Intelligence
- Development of Mathematics in India
- Mobile Computing
- Performance Analysis of Computer Systems and Network

Technical Skills

- **Programming Languages**: C, C++, Java, python, prolog
- **Scripting Languages**: Bash, awk
- **Web Devlopment**: HTML, CSS, Javascript.
- **Tools**: Vim, Eclipse, Latex, Beamer, Gnuplot, Pyplot LaTeX
- **Operating Systems**: Linux: Ubuntu,Debian, Windows: xp, 7, 8
- **Databases**: PostgreSQL

Fields of Interest

Computer Networks, Algorithms, Operating Systems

Positions of Responsibility

- **Teaching Assistantship, IIT Bombay**:
    - CS 305 Computer Architecture *(with Prof. Bhaskaran Raman)* *[July 2014 - Dec 14]*
      - Prepared Tutorials and solution,evaluated Quizs and midterms
    - CS 341 Computer Architecture Lab *(with Prof. Bhaskaran Raman)* *[July 2014 - Dec 14]*
      - Conducted lab sessions
    - CS 101 CS 101-2015-1 Computer Programming and Utilization Lab
      (with Prof. Kavi Arya) *[Jan 2015 - April 15]*
      - Conducted Lab sessions guided 14 students, evaluated quizs,midterm and Endsem.
      - Supervised three project teams, Pyramix solver,Air hockey,Carrom Board.
    - Senior TA CS101 *(with Prof. Varsha Apte)* *[July 2015 - Dec 2015]*
      -Managed lab of 90 students and 9 Junior TAs. - Conducted Lab sessions as STA,coordinated Junnior TAs,Managed records of students.

Hobbies

- Playing Chess, Sketching, Drawing