**Projects undertaken**

**Internship in 3rd year** -guide Mr. Pranay Kishore (may 2011 to july 2011)

* Did mechanical structure design of a robot to be presented in nvidia conference in august 2012 (bounding box for robot: circle of radius =27cm; height =135cm)
* Made CADs of all parts of the robot in AutoDesk Inventor
* Defined worst case scenarios for static stress analysis
* Did stress analysis of critical parts and made the design robust
* Decided on materials to be used for various parts depending on loading conditions
* Designed shafts based on bending/torsional/axial loading conditions

**IITB Racing** (May 2009 to Present)

*As a part of vehicle dynamics team, I*  (Feb 2010 to Jan 2011)

* Conceptualized & designed the steering geometry using Excel to give good percentage Ackermann over the desired range of wheel angles
* Calculated the maximum stresses in tie-rod and made a robust design
* Contributed in making the chassis CADs in Solidworks
* Did simulations in Ansys to test the rigidity of chassis which led to improvements in the chassis design
* Contributed in the design of upright
* Helped in the fabrication of car which participated in FSUK (May 2009 to June 2009)

**Micro-milling machine design** – guide Prof. Ramesh Singh (Oct 2010 to Dec 2010)

* Conceptualized the design of the micro milling machine
* Made all the relevant CADs in Solidworks

**B-Tech Project** – guide Prof. C. Amarnath (August 2011 to Present)

* Working on a project on regenerative braking

**Other Projects**

* Developed a C++ based Sudoku Solver application as my project in course CS101 (2008)
* Literature review of materials used in reinforcement of concrete used in construction industry (2009)

**Software Proficiency**

* Operating systems: Windows
* Modelling and Analysis:
* Conversant with: Soliworks 2009, Ansys 13 Workbench , Autodesk Inventor 2011
* Exposed to: Matlab Simulink, OptimumK (demo), Mathematica, Ansys 13 classic
* Miscellaneous: Microsoft Office, C++

**Positions of Responsibility**

**Vice captain, IITB Racing team**  (Feb 2011 to present)

* Leading a 3 tier team of 19 members for the annual Baja Sae India competition in 2012
* Handling the accounts for the team
* Technical initiatives
* Initiated the steer-by-wire project with the intention of implementation in future cars
* Changed the design methodology to significantly decrease timeline for fabrication
* Leadership initiatives
* Sustaining IITB Racing as an organization by proactively enlisting faculty support and feedback
* Working on procuring permanent infrastructure for the future of the team

**Mentor, CFRP Project** (May 2011 to July 2011)

* Mentored a group of 4 juniors in a project on CFRP(Carbon Fibre Reinforced Plastics)
* CFRP has great potential to reduce the weight of chassis and is important part of the plan for implementation on future cars

**Steering Sub-system head, IITB Racing team** (Feb 2010 to Jan 2011)

* Was solely responsible for the design & implementation of steering system in the Baja 2011 car
* Was responsible for mentoring a junior in steering system to ensure continuity in team

**Other Recognitions**

* Ranked in the top 1% of the 35000 students at Indian National Physics Olympiad (INPhO) (2008)
* Secured an AIR of 462 among 3,00,000 applicants in IITJEE (2008)
* Selected in top 30 of my batch for training in football(NSO) (2008)
* Qualified in top 15 teams in Junkyard Wars in Techfest, IITB (2009 & 2010)
* Organizer, Mood Indigo (2008)
* Part of the winning team(cricket) in junior school

**Courses undertaken**

* Electives: Manufacturing Planning and Control, Advanced Thermodynamics & Combustion, Industrial Scheduling, Automobile Engineering(transmission), Psychology
* Extra courses: Flight Mechanics II, Space Flight Mechanics