

PERSONAL DETAILS

Name: Shubham Gupta

Department: Mechanical Engineering

Programme: Dual Degree Mechanical Engineering - B.Tech. (Hons.) Mechanical Engineering & M.Tech. in Computer Integrated Manufacturing.

Year: 4th year dual degree student

ACADEMIC PERFORMANCE

Year of Completion	Degree	Institution	Aggregate Percentage /CGPA
2013	Dual Degree B.Tech +M.Tech(Mechanical Engg.)	IIT Bombay	8.46 (on a scale of 10)
2007	Class XII (CBSE)	St. Sophia Sr. Sec. School, Hisar	84.4%
2005	Class X (CBSE)	ABP School, Renusagar	86.8%

ACHIEVEMENTS AND AWARDS

- Qualified **IIT-JEE 2008** with an **All Indian Rank of 863 (among top 0.25% candidates)**
- Recipient of prestigious '**IIT Bombay Heritage Fund Scholarship**' for being among **top 10% students since past two years**
- Awarded '**Certificate of Merit**' by CBSE for securing **100% marks in Mathematics** and being among **top 0.1% scorer** of the 8,00,000 examinees in CBSE Board-2007
- Recipient of prestigious "**Aditya Birla Pratibha Scholarship 2011-12**" which is awarded only to 27 students all over India.
- Was among the top 12 candidates all over the world to be selected for **UK Summer Internship Programme-2011** at Cranfield University.
- Scholar of All India '**National Talent Search Examination (NTSE)**' 2005
- Secured **All India Rank-27** in '**All India Erose Scholarship Exam**' in 2003
- Secured **1st runner up position** in '**Sunbeam General Quiz**', coordinated by **Mr. Barry O Brian**
- Received **Best Outgoing Student Award** from ABP School, Renusagar

AREAS OF INTEREST

- Finance and Investment banking
- Mathematical modeling & simulation of dynamic systems
- Control systems
- Thermal & Fluid Engineering

INTERNSHIPS

- **Cranfield University, Shrievenham, UK** [May-July 2011]
3D Modeling and Simulation of a UAV with a spherical vision sensor
 - Analysis of various Spherical vision sensor models for UAV path planning was carried out.
 - Uniform distribution of sensors on a sphere by Leopardi's algorithm to have full spherical coverage of the environment was worked out and implemented in MATLAB.
 - Dynamic modeling of UAV sensor platform populated by 3D objects was done in MATLAB.
 - Graphical visualization of the complete system i.e. spherical visual sensor moving within an environment populated by 3D objects was achieved.
- **Larsen & Toubro Ltd. (L&T), Mumbai** [May-June 2010]
Design of Shell & Tube Heat Exchangers
 - Performed Designing of Shell & Tube Heat Exchanger through programming in Microsoft Excel by carrying out all the calculations for heat transfer coefficients and pressure drops and then optimizing the design according to given constraints on designing data.
 - Carried out an Optimized Designing of Shell & Tube Heat Exchanger using L&T HTRI software and then cross-checked with the ones done in MS Excel.
- **Hindalco Industries Limited, Renusagar** [June-July 2009]
Maintenance Practices on Pumps and Valves
 - Conducted detailed literature review on mechanism, functioning and use of centrifugal, reciprocating and rotary pumps in industries.
 - Performed analysis of different types of valves and their operation scenarios.

COMPUTER SKILLS

- *Programming Languages:* C, C++

- *Software Environment:* Matlab, Ansys, Solid Works, Labview, Simulink, Deform

ACADEMIC PROJECTS

- **Algorithm for Brainvita** [July-Nov 2008]
 - Developed “Brainvita Game” as a part of the course “Computer Programming and Utilization”.
 - Designed an indigenous algorithm that creates the no. of marbles and their appearance and disappearance accordingly, as the game proceeds using the graphical interface in C++.
- **Experimental Strain Energy Analysis** [Dec 2009-Mar. 2010]
 - Designed an experimental set up for the proof of ‘*Castigliano’s theorem*’ by verifying it experimentally.
 - Implemented Strain Energy analysis and carried out calculation of displacements at different positions with multiple applied loadings varying one at a time.
- **Modeling of Mechanics of Composites** [Oct-Nov 2010]
 - Conducted a literature review on properties of composite materials
 - Performed Modeling & Simulation of Delamination (a defect in composite materials) using Abaqus software.
- **Steam Engine setup installation and improvement** [Dec 2010-March 2011]
 - The project was aimed to reduce frictional losses, add a condenser unit and make the feed pump mechanism in a steam engine of 5HP capacity manual for rural applications.
 - Was also involved in the design of an experimental setup for dryness fraction measurement in this project.

EXTRA-CURRICULAR ACTIVITIES / POSITIONS OF RESPONSIBILITY

- Participated in the movie making competition, and secured 1st prize for the same in **Radiance 2011**, Department festival of IIT Bombay.
- Served as a **Co-ordinating team member** in Hospitality Dept. in Cultural Festival Mood Indigo 2009, at IIT Bombay.
- Worked as a **Co-ordinator** in Technoholix Dept. in Tech Fest 2010, at IIT Bombay.
- Worked for one year in National Social Service (NSS) and was a member of GRA (Group for Rural Activities) at IIT Bombay.

COURSES UNDERTAKEN

Mathematics Courses:	Linear Algebra	Numerical Analysis	Calculus	Differential Equations
Core Courses:	Fluid Mechanics	Engineering Graphics	Thermodynamics	Solid Mechanics
	Engineering Mechanics	Strength of Materials	Manufacturing Processes	Structural Mechanics
	Kinematics and Dynamics of Machines	Industrial Engg. & Operations Research	Vibro-acoustics	Heat Transfer
	Automatic Control Engineering	Microprocessors & Auto. Control	Machine Design	I.C.Engines
Non-Core Courses:	Introduction to Electrical & Electronic Circuits	Computer Programming & Utilization	Process Dynamics & Control	Inventory Control & Management

DECLARATION

I hereby declare that all the above information provided is true to the best of my knowledge.
(Shubham Gupta)