Raja Jain **09010003**
Mechanical Engineering **UG Third Year (B.Tech.)**
Indian Institute of Technology, Bombay **Male**
DOB: 07-DEC-1991

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	9.66
Intermediate/+2	Central Board of Secondary Education	Kendriya Vidyalaya ONGC Ahmedabad	2009	93.80
Matriculation	Central Board of Secondary Education	Kendriya Vidyalaya ONGC Ahmedabad	2007	92.60

Academic Achievements

- Mechanical Engineering **Department Rank 1** after five semesters Awarded Institute Academic Prize for the same
- Scored **semester performance index of 10/10** in third semester
- Secured a **grade of AP** (awarded for the outstanding performance) in **Manufacturing Processes** (Institute Course)
- Pursuing **Minor** in **Computer Science** and **Honours** in **Thermal Engineering**
- Secured **All India Rank 457** among more than 3,90,000 students appearing for IIT Joint Entrance Examination 2009
- **Ranked among top 0.14% students** in **All India Engineering Entrance Examination '09** conducted by Central Board of Secondary Education
- Awarded **Certificate of Merit in 2007** by CBSE for being in **top 0.1% of students appearing in examination of Mathematics**

Research Experience and Technical Projects

Boeing Summer Internship - Cranfield University, the United Kingdom
Guide: Prof. Venkat Sastry *May 2011- July 2011*

- Conceptualized and implemented centrally stored web based interface for eliciting information from simulations via users for Boeing
- Evaluated ways of eliciting information and implemented them using PHP, Ajax, JavaScript, SQL and HTML5
- Improved qualitative data capture by implementing :-
  - Fully dynamic web interface
  - Video annotation (pause video at any point of time, annotate it, and write anything free hand, can do it for multiple frames)
  - Image annotation (annotate and write over images), Auto-save
  - Extracted information from the data using graphs and other visual tools

Course Projects

Unique Identification Project
Guide: Prof. Deepak B. Pathak *July 2009 - November 2009*

- Developed and documented a program to uniquely identify the fingerprint of a registered student in C++ language
- Coordinated among a group of 20 colleagues for the validation part of the project

Strength of Materials Project
Guide: Prof. G.V.Prabhugaonkar *July 2010 - November 2010*

- Consummated detailed analysis of materials used for building hull of High Speed Sealift Vessels
- Proposed materials based on the application requirements, manufacturing and cost constrains

Marketing Management Project
July 2010 - November 2010
Guide: Prof. Dinesh Sharma

- Studied the market position of Microsoft and conveyed SWOT and PESTAL analysis of the software giant

PERSONAL PROJECTS

Mars Manoeuvre Nexus Techfest'11, IIT Bombay *January 2011*

- Built an autonomous robot that manoeuvres a 7*7 grid and brings back blocks of specific colour in a sequence and another manually controlled robot which puts the autonomous robot on the grid and brings back the blocks
- Worked extensively with microcontrollers, AVR programming, IR sensors, sharp sensors, gripper mechanisms and Arduino
- Our team Qualified for **National Finals**

Autonomous Grid Solver –City Map Quark, BITS Pilani *January 2011*

- Built an autonomous robot using microcontrollers which stored the information of arena (Maze-involved bridges and nodes) in dry run using sensors
- Analysed the stored information, computed possible paths and followed one of them to reach the destination
- **Placed First at national level**

RELEVANT COURSES

- Heat Transfer
- Engineering Metallurgy
- Marketing Management
- Manufacturing Processes
- Economics, Psychology
- Calculus, Algebra, Differential Equations
- Industrial Engineering and Operational Research
- Computer Programming and Utilization
- Introduction to numerical Analysis
- Data Structures And Algorithms
- Engineering Graphics and Drawing
- Data Analysis and Interpretation
- Discrete Structures
- Introduction to Electrical and Electronics Circuits
- Advanced Thermodynamics And Combustion
- Fluid Mechanics

SOFTWARE SKILLS

- Programming: C, C++, Java, JavaScript, PHP, Ajax, SQL, Scilab, HTML5
- Have worked with Micro-controller AVR Atmel family
- Packages: Matlab, ANSYS, SolidWorks

EXTRA CURRICULAR ACTIVITIES

IIT Bombay FSE (Formula Student Electric) Team *(Currently working on)*

- Part of IIT Bombay Racing team, working on FSE, competition organised by FSAE
- Working on the chassis subsystem of car, analysing design in ANSYS for different conditions of loadings and impacts and engineering it according to needs
- Using various machining tools for manufacturing chassis and involves deciding various parameters of car to improve its performance (suspension, structural strength, stability of car etc)
- Coordinating with team of 24 colleagues for fabricating the car

Other Activities

- Part of **National Social Service** of IIT Bombay in my first year -
  - **GRA** involved visiting villages, understanding prevailing problems assist villagers to find their solutions
  - Part of **Educational Outreach** of IIT Bombay in my first year involved teaching Mathematics and Science to school students in campus
- Designed a **solar boat** capable of running in water on solar energy for participation in Techfest 2010
  - Learnt the working of commonly used solar engines (in small scale robotics) and use of capacitor in storing the absorbed solar energy
- Have participated in many **grid follower and grid solving** (Nexus Navigate, line following GCs of Hostel)competitions
- Represented **Hostel in Tech General Competitions**(line following and coding competitions)