Saurav Aryan **09010057**
Mechanical Engineering **UG Third Year (B.Tech.)**
Indian Institute of Technology, Bombay **Male**
DOB: 30th Dec, 1992

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	9.17
Intermediate/+2	C.B.S.E.	Shivam Convent, Patna	2009	88.20
Matriculation	C.B.S.E.	D.A.V. Public School, Khagaria	2007	90.40

AREAS OF INTERESTS

- Manufacturing Technology & Machine Tools
- Thermodynamics: Heat Exchangers
- Industrial Engineering, Operations Research
- Applied Statistics

TECHNICAL SKILLS

- **Programming skills:** C/C++ (Diploma in Computer Programming), Matlab, OpenCV, OpenGL
- **CAD Softwares:** Deform 3D, ANSYS , Solidworks, LabView
- **Analytical Softwares:** SAS, Matlab simulink, Mathematica, IRIS Explorer
- **MS-OFFICE** : - Word, Excel, Powerpoint, Access

RELEVANT COURSES

- **Applied Mechanics** Engineering Mechanics, Solid Mechanics, Strength of Materials, Fracture Mechanics, Kinematics & Dynamics of Machines, Solid Mechanics Lab,
- **Manufacturing** Engineering Metallurgy, Manufacturing Processes I & II, Industrial Engineering & Operations Research, Workshop Practice, Manufacturing Practices Lab, Manufacturing Processes Lab
- **Thermals & Fluid** Basic Thermodynamics, Heat Transfer, Applied Thermodynamics, Heat Transfer & Metrology Lab, Fluid Mechanics I, Fluid Mechanics Lab
- **Applied Maths** Calculus, Linear Algebra, Numerical Analysis, Differential Equations, Analytical Methods in Engineering Applications
- **Applied Statistics** Data Analysis and Interpretation, Introduction to Probability Theory, Statistical Quality Control, Applied Stochastic Processes, Markov Decision Processes, Statistical Inference, Regression Analysis
- **Interdisciplinary Courses** Computer Programming & Utilization, Introduction to Electrical & Electronic Circuits, Economics, Environmental Science, Modern Physics

ACADEMIC ACHIEVEMENTS

- **Department Ranked 4th** in a batch of 120 students
- Qualified the **1st** and **2nd** levels of **National Talent Search Examination**, conducted by **NCERT**, New Delhi (in 10th class, year 2007)
- Awarded Certificate of Excellence in Winter Tech-Skill Workshop, conducted by STUDe Club
- **All India Ranked 27th** in 2nd level of National Science Olympiad, conducted by SOFworld(9th class)

WORK EXPERIENCE

Basix Academy, New Delhi, India **December, 2011**

Study on Industrial practices at ITIs and industries

- Worked as technical consultant at newly established skill development center (SDC) at Bhiwadi Industrial Area, Rajasthan providing industrial training to unskilled people for their employment in industries
- Visited couple of industries and ITI to collect data of manufacturing process and skill required in worker
- Recommended course contents of fitter, welder, and CNC for the center on the basis of collected data

Industrial Visits ***Federal Mogul Goetze; Continental Engines Pvt. Ltd.; Indo Alusys Pvt. Ltd.; Arvind Press Caps; Ratan Engineering;*** and couple of small scale industries in Bhiwadi Industrial Area, Rajasthan, India

Defence Academy of United Kingdom, Cranfield University, UK. **May, 2011- July, 2011**
Internship on Collaborative Visualization in Operation Planning

- Funded by **National Health Services, UK** for use in **Liverpool Heart and Chest Hospital**
- Developed an application for the doctors to work on images in a collaborative session. Different people at distant places, connected over internet, can annotate and comment on medical images.
- Built the application using IRIS Explorer, powerful visualization software based on C++.
- Good experience of working and interacting with people abroad.

RESEARCH EXPERIENCE/ ACADEMIC PROJECTS

Characterization of Residual Stresses **July, 2011- present**
in Laser Assisted Mechanical Micromachining (LAMM)

- Analysis of the surface quality in terms of residual stress in super alloys undergoing Laser heating prior to conventional metal cutting
- Developed a Finite Element model for hybrid machining with integrated moving laser heat source in DEFORM 3D® to predict cutting forces, strain, temperature and residual stress condition
- The projected work focused on the Sensitivity analysis of various uncertain model parameters on surface residual stress of Inconel 625 specimens using elasto-plastic stress analysis
- Working on designing machining setup using Pro-E and ANSYS 11.0

Electronics Club, IIT Bombay **May, 2010- July, 2010**
Summer Project on 3-D laser scanner

- Built a scanner, which can scan the lateral surface of an object and generate a 3-d image on computer
- The scanner uses a Laser pointer, to light the surface of object, which is rotating on a platform, and the video of the rotating object is captured from a camera
- **Image Processing:** Wrote a C++ code with Open GL and Open CV library commands to process the captured video and rendered a 3-d image of the scanned object showing very minute details of surface
- The project idea has wide range of applications, for example, in making of videos and movies, manufacturing processes, medical scans etc

EXTRA CURRICULAR ACTIVITIES

Batch Coordinator of Computer Programming and Utilization Course Lab **July, 2009- Nov, 2009**
Led a batch of 24 students to complete the assigned Computer Lab project on C++ in first year.
Music: - Playing guitar and violin. Pursued NSO in *Western Violin* in first year
Sports: - Judo, Lawn Tennis, Gyming and jogging regularly
Others: - Socializing with new people and different cultural groups
Languages: - English (fluent), Hindi (mother tongue), Chinese (Beginners)