

AMITA SINGH

B.Tech, Mechanical Engineering, TATA Technologies Ltd. Lucknow

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AREAS OF INTEREST

Manufacturing Science, Computer Aided Design

JOB EXPERIENCE

Jul'10 - Now: Technical Consultant at TATA Technologies, Lucknow for TATA Motors.

EXPERIENCE WITH THE FOLLOWING TOOLS:

CATIA		2+ years. Expertise in Part and Assembly Design.
DELMIA Process Engineer	Process Flow	1+ year. Expertise in Process Sheet, Process Flow Diagram, PFMEA and Control Plan.
	Scripting	1.5+ years. experience in VB scripting.
DELMIA	Process simulation	2+ years. Expertise in Process Simulation.
	Visualization	2+ years. Expertise in lighting and rendering.
	Device Building	2+ years. Expertise in Device Building
	Human Simulation	1.5+ years' experience in human task simulation.
QUEST		3+ months experience.
Programming Skills JAVA, PERL, VB, JScript		1year. Created application using these languages.
AutoCAD		Used Auto CAD for development of models.
Product Lifecycle Management		2+ years' experience in PLM. Expertise in Teamcenter visualisation and simulation.

1: VALIDATION PROJECTS

- Projects to understand the resource requirements and its validation before procurement. It includes validation of articulated arm and manipulator.
- Validation of different processes of Assembly Line for trucks and clash report generated. Validation for BIW spot plan and complete report generation.
- Designing and validation of jigs and fixtures for different processes of Chassis, Frame and Trim Lines.
- Software Used: CATIA (modeling) , DELMIA (validation), AUTOCAD (dimensions and understanding) and PLM (part details and vehicle comparison)

2: SIMULATION PROJECTS

- Simulated different layouts and material flows to optimise the manufacturing before building the assembly lines. Performed clash analysis, distance analysis and joint analysis (for analysis resources).
- Simulated humans with different process lines. Performed clash analysis and human posture analysis, RULA (Rapid Upper Limb Assessment) analysis to determine operator fatigue levels.
- Software Used: CATIA (modeling) , DELMIA (visualisation, process simulation, device building, human simulation), AUTOCAD (dimensions and understanding) and PLM (part details and vehicle comparison)

3: DOCUMENTATION MANAGEMENT AND PROCESS FLOW PROJECTS

- Developed various documents required for vehicle building: Process Sheets, Process Flow Diagram, PFMEA and Control Plans. Since these documents determined the process flow, they were required to be lucid and complete.
- Performed Database maintenance and customised data import-export as per requirements. This facilitated the document availability and analysis of process and tool indents.
- Software Used: DELMIA Process Engineer (process flow) , VB Scripting (for customisation), and PLM (part details and vehicle comparison)

EDUCATIONAL QUALIFICATIONS

Degree/Examination	Board/Institute	Percentage
Introduction To Operations Management	Coursera	87.0%
Writing In The Sciences	Coursera	88.8%
Introduction To Organisational Analysis	Coursera	97.0%
Information Security & Risk Management	Coursera	100%
Introduction To finance	Coursera	100%
Decision Making	Harvard <i>ManageMentor</i> Course	100%
Project Management	Harvard <i>ManageMentor</i> Course	87.0%
B.Tech. (Mech.) (2006-2010)	BIET JHANSI (UPTU)	68.0%
Intermediate (2005)	ISC Board, New Delhi/ Loreto Convent , Lucknow	77.0%
High School (2003)	UP Board, Allahabad/ Carmel High School, Lucknow	76.2 %

SELECTED PROJECT WORK

IV YEAR: *Comparative Performance Analysis of machining of Low Alloy Steel (AISI-4340) in different conditions:* Experiments were performed with Low Alloy Steel (AISI-4340) to investigate the effect of using graphite as a solid lubricant on surface finish of the products, especially during high temperature machining processes. To compare, control experiments were performed with different coolants and tool geometries. Results show improvement in the surface finish by 5% to 30% with graphite assisted machining.

III YEAR: *Mechanical Design of Helical springs used in Indian railway wagons:* Aim of the project was to design a helical spring for a railway wagon for average load offered by Indian good's rail wagons. The design was validated using a specialized simulator written in C.

TRAINING

III YEAR: Underwent a 4 week training in **CAM** processes (NC & CNC Programming) at *Mechanical Factory Department, Hindustan Aeronautics Limited (HAL) Lucknow.*

II YEAR: 9 week study/analysis of liberalized growth in **Indian Automobile Industry**, *consequent to New Industrial Policy (LPG model)* introduced in the 90s & subsequent **report submission** at **Indian Institute of Management Lucknow.**

SELECTED COURSE WORK

Manufacturing Science
Computer Aided Manufacturing

Material Science
Computer Aided Design

ACHIEVEMENTS, AWARDS & CO-CURRICULAR ACTIVITIES

TECHNICAL

- 2007** Runner up of *Catset* (Assembly Drawing contest using **CATIA**) at MEF, Jhansi.
2007 Runner up of *Mech-Tech* (The Technical Quiz) organized by MEF, B.I.E.T. Jhansi.
2006 Winner of *Clairvoyance* (Paper Presentation Contest) organized by Mechanical Engineers' Forum (MEF), B.I.E.T. Jhansi.
2006 Paper presented on *MagLevs: The Magnetic Levitation Trains* at B.I.E.T. Jhansi.

LITERARY

- 2007** Won third prize in *Debate Competition & Article Writing Competition* conducted by *Literary Sub Council* of B.I.E.T. Jhansi
2006 Winner of Group Discussion in *Sopan*, the literary festival of B.I.E.T. Jhansi.

MANAGEMENT

- 2009-10** Institute captain for Sports of B.I.E.T. Jhansi
2010 Event organizer in *Prabhanjan*, State Level Inter-College Sports Event at B.I.E.T
2008-09 Hostel representative for Yashodhara Bhawan
2007-08 Event organizer in *Urja*, technical festival of MEF at B.I.E.T. Jhansi

SPORTS

- 2010** Won gold medals in long jump, high jump and triple jump in *Prabhanjan*, state level Inter-College Sports Event at B.I.E.T. Jhansi. Declared the **Best Athlete**.
2010 Captain of the winning basket ball team in *Prabhanjan*
2008 Winner of 100m sprint and Long Jump in *Sangram*, the National level sports meet of IIT Roorkee.
2008 Won the gold medal in high jump and silver medals in 100m sprint and triple jump in *Tvaran*, the National level sports event organized by KNIT Sultanpur.
2007 **Best athlete** in *Pace-2007*, the annual sports meet of B.I.E.T. Jhansi.
2002 Part of the runner up team in a *National Level Basketball Tournament* of the Carmel Fraternity.

PERSONAL DETAILS

Name : Amita Singh
Gender : Female
Nationality : Indian
Date Of Birth : 25 Dec' 1987
Languages Known : English, Hindi, German
Interests : Reading books, Sports (Athletics, Basketball)