



**B YASHWANTH KUMAR**  
**Mechanical Engineering**  
**Indian Institute of Technology, Bombay**  
**Specialization: Manufacturing Engineering**

**10310061**  
**M.Tech.**  
**Male**  
**DOB: 12/11/1988**

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2012	8.83
Undergraduate Specialization: Mechanical Engineering				
Graduation	JNTUH	SREE NIDHI INSTITUTE OF SCIENCE AND TECHNOLOGY	2010	80.30
Intermediate/+2	IPE	ST PATRICK'S JUNIOR COLLEGE	2006	91.00
Matriculation	ICSE	ST JOSEPH'S PUBLIC SCHOOL	2004	82.00

#### SCHOLASTIC ACHIEVEMENTS

- **Authored** a paper titled "Hybrid Layered Manufacturing Using Gas Metal Arc Weld (GMAW) Deposition" – Published in Agile Manufacturing Systems, PP.784-790
- Won 1<sup>st</sup> prize in paper presentation in ENGINEER 2008 – an Annual Technical Symposium organized by NIT Suratkal, for the paper titled "Effect of Cold Working on behavior of Copper"
- Amongst top 0.7% students in GATE 2010 - Department of Mechanical Engineering
- Department rank 3 out of 136 students on completion of Under Graduation (Mechanical Engg.)

#### INTERNSHIPS

##### National Fuel Complex (NFC), Hyderabad

May '09- July 09

*Design of different Tools and effects of Thermo-Mechanical treatments on properties of Zircolay Tubes*

- Studied various tool steels, geometry and properties and identified existence of 'Bauschinger effect'
- Optimized the process of manufacturing Zircolay tubes on PILGERING machine (the biggest in ASIA) saving almost 5 hours of production time per tube

##### NILE India Limited, Hyderabad

Aug '09- Oct '09

*Design and Analysis of weld process of chemical Reactors*

- **Recommended** Electrical resistance butt seam welding from a numerous welding processes
- Comprehended general principles and computed stress and safe thickness
- Analysis of weld process and optimum weld parameters were found out in ANSYS environment

#### M.TECH DISSERTATION

*Hybrid Layered Manufacturing (HLM) of Metallic Objects through 5-axis Deposition*

Jan' 11 – Till Date

- Developing software for a **5-axis HLM** process which involves
  - 5-axis Slicing of CAD model read from a STL file and generation of the contour loops
  - **Post Processing** of the tool paths for HERMLE C30U 5-axisCNC machine
- Created a **3D Finite element model** for the prediction of the deformations associated with molten metal deposition as applied to layered manufacturing with specific application to process employing gas metal arc welding using **ANSYS**
- **Authored** a paper titled "Development and Characterization of Functionally Graded Materials Using Hybrid Layered Manufacturing" – presented at International conference on Agile manufacturing systems, Agra, 2011
- **Authored** a paper titled "Characterization and Stress Relieving of Objects Built Using Hybrid Layered Manufacturing" - Abstract accepted for Oral Presentation at the forthcoming 37th International MATADOR Conference, UK, **Manchester University**, 2012.
- **Published** in RAIN TREE-IITB Magazine as the best R & D project from the department

#### BTECH PROJECT

*Design and Analysis of Heat Sink for Micro Power Module at DLRL, Hyderabad*

Dec '09 – April'10

- Formulated a **cost effective** solution using FOLDED fins as Heat Sink
- Checked the accuracies and performances of the obtained results using **CFD-ICEPAK 4.2**

## SEMINARS AND COURSE PROJECTS

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- Implementation of Adaptive Control using Spindle Power– M. Tech. Seminar  
-Achieved optimal and safe cutting conditions by using explicit sensor system  
-**Co-authored** a paper titled “*Implementation of Adaptive Control using Spindle Power*” – published in **International Journal of Applied Engineering Research**
- Analysis of **Belleville Spring** using ANSYS 11.0  
-Determined **force-displacement** characteristics, analytically using **MATLAB** and compared the results with finite element modeling (**ANSYS 11.0**)
- Static analysis of spanner when it is acted by a point load using **ABACUS**  
-Created a **2D axis-symmetric FE model to analyze stress and forces** acting on the block
- Finite element analysis of an open die forging process  
-Developed a **2D axis-symmetric FE model to analyze stress** acting on the block using ANSYS
- Simulated Gravity die casting using Auto Cast  
-Identified the hot spots and appropriate dimensions of feeder are calculated

## ELECTIVE COURSES UNDERTAKEN

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Finite Element and Boundary element methods, Numerical Modeling of Manufacturing processes, Computer Integrated Manufacturing, Rapid Product Development, Design for Manufacturing

## COMPUTER SKILLS

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- Design and Analysis Tools: AUTO CAD, AUTO CAST, ANSYS12.0, ABACUS, CIMCO V5, Pro/E, Delcam's PowerMILL, PowerSHAPE
- Programming Languages: C, C++, JAVA, MATLAB

## POSITIONS OF RESPONSIBILITY

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Marketing Manager, Radiance 2012

*Annual Research and Technological Festival of Mechanical Engineering, IIT Bombay*

- Actively involved in the overall planning and conceptualization of the festival
- Handling more than 30 corporate sponsorships and external relations of the event

Music Secretary, Hostel 13, IIT Bombay

- Upgraded the infrastructure of the music room with new advanced equipment
- **Organized** 2 Intra-Hostel events and 3 workshops to instigate music scene in the hostel

Volunteer, **Teach For India**, Powai Municipality English Medium School

- **Mentored** a class of 40 underprivileged students
- Formulated innovating tutoring techniques to convey ideas by giving practical examples

TEQIP College Ambassador, SNIST, Hyderabad

- **Amongst 15 students** selected from more than 200 applications
- Administered allocation of funds to departments and provide feedback to TEQIP

## EXTRACURRICULAR ACTIVITIES

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### Cultural

- Received **1<sup>st</sup> prize** in Solo Dance event from more than 100 participants in SPOORTHY 2008-a National level Techno-Cultural fest organized by JNTU, Hyderabad
- Special Mention in BEAT IT-PG Solo Dance competition with participants from 21 Depts. of IITB

### Sports

- **Captain** of winning cricket team in OLYMPUS- a National Level Sports Consortium taunted as the biggest in Andhra Pradesh
- Member of department cricket team which won **Gold** in PG sports from 21 Depts. Of IITB