# **RESUME**

# Ajay Goyal

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### > CAREEER OBJECTIVE

Intend to carry out research work in an academic environment with young and dedicated brains where ideas can be gathered and communicated.

# TECHNICAL SKILLS

Metal Cutting modeling, Fourier series and transformation, Bone mechanotransduction, Strength of Materials, Mechanics, optimization methods, fatigue failure, regression methods, neural networks

## **WORKING EXPERIENCE**

- ❖ GLA University, Mathura(15<sup>th</sup> July 2014 to 30<sup>th</sup> December 2014) Working as Assistant Professor in Mechanical Engineering Department
- ❖ Mangalayatan University, Aligarh (from 15<sup>th</sup> July 2013 to 10<sup>th</sup> July 2014) Worked as Assistant Professor in Mechanical Engineering Department Courses taught: Machine Design 1 and 2, Heat and Mass Transfer
- Gateforum (GATE coaching classes), Aligarh. Subjects taught: Strength of Materials
- ❖ Sachdeva Institute of Technology, Mathura(from 22<sup>th</sup> July 2010 to 22<sup>th</sup> July 2011) Worked as Lecturer in Mechanical department
  - Courses taught: Manufacturing science II, Mechanics, Strength of Materials, and Mechanical Workshop
- ❖ Starion India Pvt. Ltd., NOIDA (from 26<sup>th</sup> September 2009 to 21<sup>st</sup> June 2010)
  Worked as Production Engineer, deployed in washing machine department where semi-automatic machines are manufactured

#### > PUBLICATIONS

- ❖ A.Goyal, R.K. Sharma," Simplified Mathematical Modeling of Temperature Rise inTurning Operation Using MATLAB", Jordan Journal of Mechanical and Industrial Engineering, vol. 9(2), pp 103-111, 2015
- ❖ A. Goyal, "Generation of Temperature Rise Distribution at Chip of EN31 Steel Due to Primary Deformation Zone during Turning Using MATLAB® and to Study its Machinability Behavior with CVD Carbide Insert", International Journal of Engineering Trends and Technology, vol. 15, pp. 145-152, 2014
- ❖ A. Goyal , S. Kumar , S. Dhiman , R.K. Sharma, "Studying methods of estimating Heat Generation at Three Different Zones in Metal cutting: A review of Analytical models', International Journal of Engineering Trends and Technology, vol. 8 pp 532 545, 2014
- A. Singh, A. Goyal, S. Dhiman, R.K. Sharma, S. Kumar, "Machinability Behavior of Medium Carbon Steel (EN38) using PCBN inserts during turning process", International Conference on Smart Technologies for Mechanical Engineering, Delhi College of Engineering, ISBN 978-93-83083-35-0, pp 1253 – 1257, June 2013
- A. Goyal, S. Kumar, S. Dhiman, R.K. Sharma, "A study of temperature measuring experimental techniques used in metal cutting", Jordan Journal of Mechanical and Industrial Engineering, vol. 8, pp 82-93, 2014
- ❖ A. Goyal, S. Kumar, S. Dhiman, R.K. Sharma, "A Study of Analytical Models of Heat Generation at Three Different Zones in Metal Cutting", 3<sup>rd</sup> International Conference of National Institute of Technology, Jalandhar, Department of Industrial and Production engineering' pp 882 894, March 2013

# **WORKSHOPS**

❖ 3 day workshop at GLA University on Faculty Development Program in July 14.

#### REVIEWER

- Premier Publication Journals since August 2014.
- ❖ Jordan Journal of Mechanical and Industrial Engineering since October 2014.

# **SOFTWARE SKILLS**

# **EDUCATIONAL QUALIFICATION**

Examination	Discipline/Board	Institution	Duration of course	Percentage
Doctor of Philosophy (Ph.D.)	BioMechanics	Indian Institute of Technology, Ropar, Punjab	Since January 2015	
Masters of Technology (M.Tech.)	CAD CAM (Mechanical Engineering Department)	NIT Hamirpur (Himachal Pradesh)	2011-2013	8.79/10 (absolute)
Bachelor of Engineering (B.E.)	Production	BharatiVidyapeeth (B.V.P.) University, Pune (Maharashtra)	2005-2009	64.30%
XII	C.B.S.E.	Modi Public School (Rajasthan)	2003-2004	65.20%
Х	I.C.S.E.	Sacred Heart Convent Higher Sec. School, Mathura (Uttar Pradesh)	2001-2002	80.66%

#### > PROJECTS UNDERTAKEN AT COLLEGE LEVEL

Project Title (Masters of Technology)

Mathematical Computation of Thermal Modeling of EN31 Steel machined with CVD coated carbide insert for turning process using MATLAB programming

Analytical models capable of determining temperature rise distribution at work piece and chip due to combined effect of deformation zones during machining are simplified in a step by step manner along with relating them with basic machining parameters with the help of MATLAB programming. The coding is validated with already developed results of scientists for various machining parameters. The coding serves as generalized algorithm to generate temperature rise contour graphs with respect to various coordinates of work piece and chip for any set of machining parameters in few seconds.

The developed coding is used to determine temperature rise distribution at work piece and chip of EN31 Steel when machined with MTCVD coated carbide insert. Total 27 experiments were performed with various combinations of cutting parameters to obtain input parameters like cutting forces (dynamometer), chip thickness (Vernier) etc. These input parameters are used to calculate other input parameters like shear angle, friction angle, other developed forces, tool-chip contact length etc. Contour graphs are developed using obtained input parameters and tabulated to compare variation of temperature rise and cutting forces with respect to cutting parameters.

Project Title Development of CNC programming software (Bachelor of Engineering)

Developing software in Visual Basic which has the capability to generate CNC Programming just by pressing buttons visible on window of software

#### PhD Research Title

Invertible Computer Model for Bone Adaptation to Mechanical Environment

# **INDUSTRIAL TRAINING**

- ❖ Janta Engineers & Company (Iron), Faridabad (from 13<sup>th</sup> June 2009 to 10<sup>th</sup> September 2009) I was the part of a team which handles all the work related to bidding (excluding estimating cost of project). I have also learned to execute on-line bidding.
- ❖ Indian Oil Corporation Ltd., Mathura Refinery (from 08<sup>th</sup> June 2007 to 07<sup>th</sup> July 2007)
  I was engaged in machine shop where I have learned to perform various operations on lathe machine

# ACHIEVEMENTS

- Overall topper of CAD-CAM branch.
- ❖ GATE 2011 qualified in Mechanical stream with 425 score
- Project of generating software for CNC programming was accessed as the best B.E. project of the year 2009 by Tata Consultancy Services (TCS)
- ❖ Won 100% attendance award during my tenure of B.E.

# **EXTRA CURRICULAR ACTIVITIES**

- ❖ Training & Placement Representative (TPR)ofM.Tech.students at NIT Hamirpur 2012-13.
- Participated in various group discussion and paper presentation competitions at various colleges during B.E. duration
- Participated in blood donation camp held every year at B.V.P. University.

# √ HOBBIES

Delivering knowledge, Hindi Poetry and Dancing

# **STRENGTH**

- Quick Learner
- Team player with pragmatic approach
- Workaholic

† PERSONAL PROFILE	
Father's Name	Sh. Dinesh Chand Goyal
Date of birth	24 <sup>th</sup> November, 1985
Marital Status	Married
Permanent Address	Amarshri Niwas, C-23 Krishna Nagar, Mathura, (U.P.)
	INDIA - 281004.
Languages Known	Hindi, English