

CURRICULUM VITAE

Dr. KAILASH JHA
kailash_jha@hotmail.com

PERSONAL DETAILS:

Current Position: Assistant Professor, Dept. ME&MME, ISMU, Dhanbad-826004(India)

Sex : Male
Date of Birth : 4th March, 1968
Nationality : Indian
Address - communication : D/9(Old), Teacher's Colony, Indian School of Mines University, Dhanbad-826004, Jharkhand(India), Mobile No. 9431120009
Marital Status : Married



EDUCATION:

Degree	Division/% Marks	Institute/University
Matriculation(1984)	First/66.78	BDAH School, Nanour, BSEB, Patna
I. Sc. (1986)	First/62.1	R K College, Madhubani, BIEC, Patna
BE(Mech.) 1991	First/66.2	REC, Durgapur, Burdwan University
M Tech(Mech.) 1993	First/62.0	REC, Durgapur, Burdwan University
Ph D(CAD) awarded -1999		Indian Institute of Science, Bangalore(India)

M Tech Thesis:

In M. Tech thesis Constant Strain Element has been formulated for Finite Element Analysis. Stress concentration factor has been verified for above formulation. I did my M-Tech under **Dr. A K Sen** in Design and Production Engineering specialization.

Ph D Thesis:

Extracting Multiple Feature Interpretations and Automatic Propagation of Feature Modification", The objective of the thesis and primary contribution is to extract all possible feature interpretations of a part and establish associativity among them to enable automatic propagation of feature modification. Graphics Library has been used for displaying results. I did my Ph D under guidance of **Prof. B. Gurumoorthy**.

TOTAL WORK EXPERIENCE (IT + Teaching) : 6 + 4.1 YEARS

TRAINING

Year	Title	Duration	Organized by
1996	Shapes Geometry Kernel Training	One Week	XOX Technologies, Bangalore
2001	Effective communication	One week	IIS Scientific Computing Ltd., New Delhi
2006	Pro/Engg. Trainee	Three days	Rolta India Ltd., Kolakata
2007	AutoDesk Educational solution Set training	Two days	Comptech International, Ranchi.
2007	Workshop in nonlinear finite element analysis by Prof. J N reddy,A&M university of Texas.	Three days	SAE India Southern Section
2008	Introduction to Geometric algorithms	Three days	Deptt. of Computer Science and Engineering, IIT, Kharagpur

TECHNICAL SKILLS:

Hardware	:	Sun/ SGI and PCs
Software	:	Geometry Kernels (SHAPES, ACIS) GITA, UNIGRAPHICS, Pro/E, Inventor
Operating System	:	HP-Unix, Window NT ,Windows 95(user level)
Languages	:	C, C++, VC++

WORK EXPERIENCES:

1. Teaching and Research

DATES	:	24th November 2004 to todate
Deptt.	:	Mechanical Engineering and Mining Machinery Engineering
Name of institute	:	Indian School of Mines University (under ministry of MHRD, Government of India) , Dhanbad (India)

Position : Assistant Professor and Member of Research Council, ISMU

Courses taught : Computer Aided Design, Mechanical Engineering Design, Advanced Mechanical Engineering Design, Machine Drawing and Computer Graphics, Theory of Machines, Dynamic of Machinery, Mechanics of Solids, Finite Element Analysis. Vibration & Control, Engineering Mechanics

Software developed : Developed a tool for modeling and visualization of horizons, salt-dome, cracks, voids, anti and Synclines, in earth layers for optimal Well path, Reversible Catmull-Clark subdivision, Modeling of branching surfaces

Software used : C++, OpenGL

Operating System : Window

Responsibilities : Teaching and Evaluating of B-Tech students coming after qualifying JEE, guiding B-Tech students for final year project, member of research council, faculty-in-charge of 2nd year ME&MME students, tabulator, Web representative of Deptt. of ME&MME, ex-Faculty-in-Charge of CAD/CAM Center.

2. Scicom Infotech Private Ltd.

DATES : **December, 2004 to November, 2004**

Project : **Hip-Implantation (3D Viewer)**

Client : Stryker, Germany

Position : Senior System Executive

Project Description : Viewing different data (Instrument, stem, reamer, cup) to assist medical practitioner

Hardware :

Software : C++, Qt, OpenGL

Operating System : Window

Responsibilities : Design/Coding/Testing for the project

OpenGL has been used in this work for visualizing data. Key and Mouse controls have been added in this work for easy visualization. **Zooming, scaling, rotation** and lighting have been implemented.

DATES : **April 2003 to November 2003**

Project : **Water network analysis**

Client : Delhi Development Authority
Position : Senior System Executive
Project Description : Detect leakage in pipe network
Hardware :
Software : VB, C++
Operating System : Window
Responsibilities : Design/Coding/Testing for the project

The results of the projects have been displayed using **OpenGL**. **Mouse** and **key** control has been incorporated for easy visualization. **Zooming**, **rotation** and **scaling** have been implemented.

DATES : **June 2001 to 20th March, 2003**

Project : **R and D project**

Client : SCICOM Infotech Pvt. Ltd., Noida

Position : Senior System Executive

Project Description : Testing and coding for Well Path Planner, Developed API for Surface Modeler. Algorithm of data reduction has been implemented. Hough transformation has been developed for feature detection. Snake have been implemented for deformable model.

Hardware :

Software : OpenGL, C++

Operating System : Window

Responsibilities : Design/Coding/Testing for the project

In this four types of curves have been formulated. Which is given below:

- (a) Energy based B Spline curve (optimization is done for whole well segment)
- (b) Energy based B Spline curve (optimization is done for curved portion of well)
- (c) Local B-Spline interpolation
- (d) Line arc approximation of curves

An algorithm for energy based B-Spline surface formulation has been developed. Different types surfaces (**Ruled**, **Coons** patch(both bilinear and bi-cubic), **Bezier**, **B-Spline**, **Cylindrical**, **Spherical** and **Interpolating**) have been implemented. **OpenGL** has been used for displaying results. Mouse and key control have been added for better visualization of the surfaces.

3. IIS Scientific Computing Limited, New Delhi

DATES : **January 2001 to 20th June, 2001**

Project : **3D Cylindrical Gridder for MI Studio**

Client : Schlumberger Doll Research

Position : Senior System Executive

Project Description : Testing 3D cylindrical gridder for interface to various forward modeling codes as part of the MI Studio project

Hardware :

Software : SHAPES(Kernel), C++

Operating System : Unix, GeoFrame

Responsibilities : Coding/Testing for the project

4. XOX Technologies Private Ltd, Bangalore

DATES : **28th June, 1999 to March 2000**

Project : **3DTILER**

Client : Schlumberger

Position : Senior Software Engineer

Project Description : In 3Dtiler project a new representation of solid (Slice Representation) has been performed to get mixed properties of regions. This is useful in Finite Difference Analysis of mixed regions. Four types of grids have been considered which are given below:

- a. Cartesian uniform
- b. Cartesian non-uniform
- c. Cylindrical uniform
- d. Cylindrical non-uniform

Each grid has been tested successfully.

Hardware :

Software : SHAPES(Kernel)

Operating System : Window(NT)

Responsibilities : Developed geometrical algorithm for refaceting, area and

- Client : EMRC, India
- Position : Senior Research Analyst
- Project Description : I along with other associates developed a solid modeling package (NISA3DMODELER) based on ACIS kernel. It has all capabilities as any other solid modeler. It is based on VC++. Important features of this solid modeler are given below:
Boolean operations, sweeping operation,
Blending/Chamfering,
slicing, skinning, offsetting,
trimming and filleting of curves etc .
- Software : ACIS(Kernel), VC++
- Operating System : Window(NT)
- Responsibilities : To understand ACIS Kernel and Coding for the project

OTHER INFORMATION: Chair a session in an international conference PLMSS-2006 organised by ADA, NAL, HAL, DRDO, IISc, Bangoare.

Publications

1. *Jha, K and Gurumoorthy, B 2000 "Multiple feature interpretation across domains", Computer in Industry, 42(1), pp 13-32.*
2. *Jha, K and Gurumoorthy, B 2000 "Automatic propagation of feature modification across domains", Computer Aided Design, 32(12), pp 691-706.*
3. *Jha, Kailash, 2004 "Minimum Energy Based Interpolation for Interactive Incremental Well-path design". International Journal of Computer Aided Engineering and Software, 21(7), PP: 679-691.*
4. *Jha Kailash, 2005 "Energy based multiple refitting for skinning", International Journal of CAD/CAM, Vol. 5, No. 1, 11-88.*
5. *Jha Kailash, 2007 " Automatic Minimal Loop Extraction and Initialisation for Water Pipe Network Analysis", International Journal of Simulation, Systems, Science and Technology, Vol. 9 No. 2, PP 8-19.*
6. *Jha, Kailash, 2008 "Energy Based Approximation and Interactive Visualization of Eventualities in Earth Layers for Optimal Well Path", Accepted in International Journal of Simulation, Systems, Science and Technology, Vol. 9. No. 4.*
7. **Jha Kailash, 2008 "Construction of branching Surface from 2-D Contours", International Journal of CAD/CAM", Vol 8.**

(a) Conferences

1. International
 - a) *Jha, K, 2001 " Local Minimum-Energy, Finite-Element Based Formulation for Well-Path Design", PROLAMAT-2001, Budapest(Hungary), 7-10 Nov, pp206-17.*
 - b) *Jha Kailash, 2003" Energy based multiple curve refitting for skinning", International Conference CAD Graphics, Macao(China).*

- c) *Jha Kailash, 2004 ``Automatic Extraction of Minimal Cycles for Initialization of Graph Network'', International Conference in Discrete Mathematics and its Application, Amrita Vishwa Vidyapitham Coimbatore (India).*
- d) *Jha Kailash, 2006 ``Automatic Loop Extraction and Initialization for Water Network Analysis'', Paper has been accepted for presentation in 15th Congress of Asia and Pacific Division of the International Association of Hydraulic Research and International Symposium on Maritime Hydraulics, pp1315-23, 7-10 August, Deptt. of Ocean Engineering, IITM, Chennai, India.*
- e) *Jha Kailash, 2006 ``Catmull-Clark Subdivision and Skinning of Incompatible Curves'', International Conference on Trends in Product Life Cycle, Modeling, Simulation and Synthesis (PLMSS-2006), IISc., Bangalore(India), pp-83-90.*
- f) *Jha Kailash, 2007 ``Construction of 3-D Surface from 2-D Contours having Branches'' CAE 07, Deptt. Of Mechanical Engg. IITM, Chennai, pp 588-594.*
- g) *Jha K, ``Reconstruction of Branching Surface and its Smoothness by Reversible Catmull-Clark Subdivision'' Submitted to CGGM-09, USA.*

2. National

- a) *Jha, K and Gurumoorthy B, 1996 ``Multiple feature interpretations of a part'', National Conference on Machines and Mechanisms, Jan, CMERI, Durgapur, pp c44-c50.*
- b) *Jha K and Gurumoorthy B, 1997 ``Efficient updating of feature models across domains'', ``National Conference on Machines and Mechanism'', IIT, Kanpur, Dec, pp c43-c59.*
- c) *Jha, K, 1997 "Automatic propagation of feature modification across domains to support concurrent engineering", ``3rd students' in-house symposium Dept of Mech. Engg, Indian Institute of Science, Bangalore INDIA'', October, 7.*
- d) *Jha K, 2001 ``Computer Aided Energy based Interactive Discrete Well Path Design'' NACOMM-2001, IIT, Kharagpur, 21-22 December, PP 313-322.*
- e) *Jha, Kailash, 2005 ``Energy based approximation for eventualities in earth layers for optimal well path'', published in All India Conference in CAD/CAM, Robotic and Futuristic Factories'', 10-11 December, BIT, Mesra, Ranchi (India).*
- f) *Jha, Kailash, 2006 ``Real Time Monitoring of Well-Path and Geological Structures'', National seminar on Condition Monitoring Overview & advanced Techniques (COMOAT-06), pp321-327, 15-16, September, Indian School of Mines, Dhanbad, India.*
- g) *Jha K, 2009 ``SKINNING REVERSIBLE CATMULL-CLARK SURFACE FROM INCOMPATIBLE CURVES AND CONVERGENCE OF POLYGONS TOWARDS CUBIC B-SPLINE CURVE'', Accepted for publication in national conference (RAIT-09), Deptt. of Computer Science and Engineering ISMU, Dhanbad (India).*