

KANG LI

Siemens PLM Software Inc. – Ames, IA 50010 – USA

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Professional Interests

Computer-Aided Design and Manufacturing

Additive Manufacturing, Shape Optimization, Topology Optimization

Geometric Modeling and Processing

NURBS, Polygon Mesh, Point Cloud, Images

Artificial Intelligence

Statistical Shape Model, Machine Learning, Computer Vision

Numerical Methods

Finite/Boundary Element Method, Isogeometric Analysis

Work Experience

Siemens PLM Software Inc.

Advanced Software Engineer

Ames, IA

2015.07~ Present

- Maintain Direct Model visualization toolkit and industry standard JT file format
- Develop new visualization technologies: Ultra-Lightweight Precise (ULP) format

Siemens Corporation, Corporate Technology

Intern - Geometric Modeling and Analytics

Princeton, NJ

2014.06~2014.08

- Implemented algorithms for optimizing build orientation in additive manufacturing
 - for the 3D printing functionalities in Siemens NX CAM
 - by NX Open C/C++ and Parasolid
- Inspected software for designing patient-specific medical implants
- Filed 1 invention disclosure

Honors & Awards

Prakash Krishnaswami CAPPD Best Paper Award

ASME IDETC/CIE Conferences

Buffalo, NY

2014.08

Prakash Krishnaswami CAPPD Best Paper Award

ASME IDETC/CIE Conferences

Chicago, IL

2012.08

Best Paper Award, First Place

SIAM/ACM GD/SPM Joint Conference

Orlando, FL

2011.10

Prakash Krishnaswami CAPPD Best Paper Award

ASME IDETC/CIE Conferences

Montreal, Canada

2010.08

University Graduate Fellowship

Syracuse University

Syracuse, NY

2008.08

Excellent Student Scholarship

Tongji University

Shanghai, China

2002~2005.06

Educational Background

Illinois Institute of Technology Ph.D. in Mechanical Engineering Thesis: <i>Direct Diffeomorphic Reparameterization for Correspondence Optimization in Statistical Shape Modeling</i> Advisor: Xiaoping Qian	Chicago, IL 2009.01~2015.05
Tongji University M.S. in Mechanical Engineering Thesis: <i>Structural Design and Analysis of Diaphragm Wall Grab</i>	Shanghai, China 2005.09~2008.03
Tongji University B.S. in Mechanical Engineering Thesis: <i>Chassis System Design of 200-ton Hydraulic Crawler Crane</i>	Shanghai, China 2001.09~2005.06

Publications

- [1]LI, Kang ; QIAN, Xiaoping: **Direct Diffeomorphic Reparameterization for Correspondence Optimization in Statistical Shape Modeling**. In: *Computer-Aided Design* 64 (2015), S. 33–54
- [2]LI, Kang ; QIAN, Xiaoping: **Covariance Matrix of A Shape Population: A Tale on Spline Setting**. In: *Computers & Graphics* 47 (2015), S. 89–104
- [3]LI, Kang ; QIAN, Xiaoping ; MARTIN, Caitlin ; SUN, Wei: **Toward Patient-Specific Computational Study of Aortic Diseases: A Population Based Shape Modeling Approach**. In: *ASME 2014 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference*, 2014
- [4]CHEN, Yong ; LI, Kang ; QIAN, Xiaoping: **Direct Geomery Processing for Tele-Fabrication**. In: *Journal of Computing and Information Science in Engineering* 13 (2012), Nr. 4
- [5]LI, Kang ; QIAN, Xiaoping: **Isogeometric Analysis and Shape Optimization via Boundary Integral**. In: *Computer-Aided Design* 43 (2011), Nr. 11, S. 1427–1437
- [6]YANG, Pinghai ; LI, Kang ; QIAN, Xiaoping: **Topologically Enhanced Slicing of MLS Surfaces**. In: *Journal of computing and information science in engineering* 11 (2011), Nr. 3
- [7]LI, Kang ; LI, Wanli: **Comparison on Precision of Helical Gear Building Methods in Pro/E**. In: *Machinery Design & Manufacture* 2 (2008), Nr. 035, S. 80–82

Patents

A Method for Determining Suitable Object Build Orientations for Additive Manufacturing in a Computeraided Design and Manufacturing System Inventors: Mark R. Burhop, Kang Li, Suraj Ravi Musuvathy and Edward Slavin Build Orientations for Additive Manufacturing. US Patent submitted	Princeton, NJ 2015.01
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Skills

Programming.....

Languages: C/C++, MATLAB, FORTRAN, Mathematica

IDE: Visual Studio, Xcode, Netbeans

Library/API: OpenGL, NX Open, Parasolid, OpenCV, FLTK

Markup/Web: LaTeX, HTML/CSS/Javascript

Software.....

Geometric Modeling/Processing: NX, ProE, Solidworks, AutoCAD, Rhino3D, Meshlab, Mimics

Numerical Simulation: Abaqus, ANSYS, COMSOL, Hypermesh

Reverse Engineering: Geomagic, Imageware

Graphics Editing: Photoshop, Illustrator, Visio

Teaching Activities

Illinois Institute of Technology

Chicago, IL

○ MMAE445 CAD/CAM (Substitute lecturing)

Fall 2013

○ MMAE545 Advanced CAD/CAM (Substitute lecturing)

Fall 2012

○ MMAE544 Design Optimization (Grading and lab assisting)

Spring 2012

Syracuse University

Syracuse, NY

○ MEE571 Computer-Aided Design (Lab guiding)

Fall 2008

Academic Presentations

The 34th ASME IDETC/CIE Conference

Buffalo, NY

○ Toward Patient-Specific Computational Study of Aortic Diseases:

2014.08

A Population Based Shape Modeling Approach (Paper by Kang Li et. al.)

○ Efficient Filtering in Topology Optimization via B-splines (Paper by Mingming Wang et. al.)

2014.08

The 32nd ASME IDETC/CIE Conference

Chicago, IL

○ Direct Geometry Processing for Tele-Fabrication (Paper by: Yong Chen et. al.)

2012.08

The 2nd SIAM/ACM GD/SPM Joint Conference

Orlando, FL

○ Isogeometric Analysis and Shape Optimization via Boundary Integral (Paper by: Kang Li et. al.)

2011.10

IIT MMAE department research poster competition

Chicago, IL

○ Hierarchical Mesh Segmentation by Geometric and Topological Simplification of Morse Complex (Report by: Kang Li)

2010.04

Paper Reviews

ASME IDETC/CIE Conference

2014.02

Symposium on Solid and Physical Modeling

2012.05

Journal of Computer-Aided Design

2013.06

Journal of Ocean Engineering

2012.06

Journal of Measurements

2011.05