HaoLi

Columbia University, C²G²
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PROFILE

Date of birth	17/01/1981
Place of birth	Saarbrücken, Germany
Citizenship	German
Languages	German, French, English, and Mandarin Chinese (all fluent and accentless)

EDUCATION

Ph. D., Computer Science **07/2006 - 11/2010**
ETH Zurich, Department of Computer Science

- Thesis: *Animation Reconstruction of Deformable Surfaces*
  Advisor: Prof. M. Pauly
  Co-examiners: Prof. S. Rusinkiewicz, Prof. M. Gross, Dr. K. Bhat

M. Sc., Computer Science (Magna Cum Laude) **10/2000 - 01/2006**
Universität Karlsruhe (TH), Department of Computer Sciences

- Thesis: *Reconstruction of Colored Objects from Structured Illuminated Views*
  Advisor: Prof. H. Prautzsch
- Major 1: Computer graphics and geometric modeling
- Major 2: Cryptography and security
- Minor: Differential and projective geometry

ERASMUS Student Exchange, Computer Science **10/2002 - 09/2003**
Institut National Polytechnique de Grenoble, ENSIMAG

French-German High School Diploma **09/1992 - 05/1999**
Lycée Franco-Allemand de Sarrebruck, Germany

- Major: Mathematics, physics, visual arts and latin

RESEARCH

Princeton University **04/2011 - 05/2011**
Visiting Postdoctoral Researcher, Princeton Computer Graphics Group

- Dynamic hair capture system

Columbia University **04/2011 - ongoing**
Postdoctoral Fellow, Columbia Computer Graphics Group

- Data-driven physical simulation for human performance modeling

École Polytechnique Fédérale de Lausanne **02/2010 - 04/2011**
Visiting and Postdoctoral Researcher, Computer Graphics and Geometry Laboratory
- Real-time facial animation using Microsoft Kinect
- Temporal-coherent completion of deformable shapes

Industrial Light & Magic, Lucasfilm Ltd. **07/2009 - 10/2009**
Research Intern, R&D Group
- CloneCam: Markerless and high accuracy face tracking from multi-view stereo
- Global optimal multi-view alignment of 3-D scans

Stanford University **07/2008 - 09/2008**
Visiting Researcher, Geometric Computing Group
- Animation reconstruction from incomplete partial data

ETH Zurich **07/2006 - 11/2010**
Research Assistant, Applied Geometry Group
- Registration of partial and deformable shapes
- Art-directable facial rigging
- Real-time acquisition, modeling, and transfer of face animations

National University of Singapore **01/2006 - 07/2006**
Visiting Research Scholar, Centre for Information Mining and Extraction
- Shape matching with partial similarity analysis
- Implementation of a mesh processing framework for biomedical research

Universität Karlsruhe (TH) **05/2004 - 12/2005**
Undergraduate Research Assistant, Applied Geometry & Computer Graphics
- 3-D reconstruction based on structured light
- Projector-camera system calibration

TEACHING

Teaching Assistant
École Polytechnique Fédérale de Lausanne, School of Computer and Communication Sciences
- Digital 3D Geometry Processing (Lecture) 2010
- Computer Graphics (Lecture) 2010

ETH Zurich, Department of Computer Science
- Surface Representation and Geometric Modeling (Lecture) 2007, 2008, and 2009
- Introduction to Computer Graphics (Lecture) 2006, 2007, 2008, and 2009
- Advanced Topics in Computer Graphics (Seminar) 2006 and 2007
- Geometric Computing (Seminar) 2008

Supervised Master Students and Interns
- Alexandru Ichim, *Webcam-based facial animation* **06/2010 - 09/2010**
- Huw Bowles, *Parallel kd-tree Construction for Dynamic Geometry* **11/2008 - 05/2009**
- Jens Puwein, *Multi-View Registration of Deformable Shapes* **02/2008 - 08/2008**
- Jeroen Dries, *Mesh Approximation Using Implicit Surfaces* **09/2006 - 03/2007**

AWARDS & HONORS

SNF fellowship for prospective researchers	**03/2011**
ACM Symposium on Computer Animation Best Paper Award '09	**08/2009**
National Science Foundation 3DPVT '06 Student Travel Stipend	**05/2006**
German Academic Exchange Service (DAAD) fellowship	**01/2006**
Karl-Steinbuch scholarship of the MFG Baden-Württemberg	**10/2005**
Thomas Gessmann-Stiftung fellowship, German Science Foundation	**09/2004**
Baden-Württemberg scholarship of the Markel Foundation	**10/2004**
Scholarship of the Richard Winter foundation	**09/2004**
ERASMUS scholarship	**10/2002**
E-fellows scholarship	**11/2001**

PUBLICATIONS

TEMPORALLY COHERENT COMPLETION OF DYNAMIC SHAPES – RESULTED FROM PHD THESIS
Hao Li, Linjie Luo, Daniel Vlasic, Pieter Peers, Jovan Popović, Mark Pauly, Szymon Rusinkiewicz
to appear in ACM Transactions on Graphics
(TOG 2011), 10/2011

REALTIME PERFORMANCE-BASED FACIAL ANIMATION
Thibaut Weise, Sofien Bouaziz, Hao Li, Mark Pauly
ACM Transactions on Graphics, Proceedings of the 38th ACM SIGGRAPH Conference and Exhibition
(SIGGRAPH 2011), 08/2011

COMPUTING CORRESPONDENCES IN GEOMETRIC DATA SETS – RESULTED FROM PHD THESIS
Will Chang, Hao Li, Niloy Mitra, Mark Pauly, Szymon Rusinkiewicz, Michael Wand
Eurographics 2011 Tutorial Notes, 04/2011

ANIMATION RECONSTRUCTION OF DEFORMABLE SURFACES – RESULTED FROM PHD THESIS
Hao Li
PhD dissertation, ETH Zurich, 11/2010

EXAMPLE-BASED FACIAL RIGGING – RESULTED FROM PHD THESIS
Hao Li, Thibaut Weise, Mark Pauly
ACM Transactions on Graphics, Proceedings of the 37th ACM SIGGRAPH Conference and Exhibition
(SIGGRAPH 2010), 07/2010

GEOMETRIC REGISTRATION FOR DEFORMABLE SHAPES – RESULTED FROM PHD THESIS
Will Chang, Hao Li, Niloy Mitra, Mark Pauly, Michael Wand
Eurographics 2010 Tutorial Notes, 05/2010

ROBUST SINGLE VIEW GEOMETRY AND MOTION RECONSTRUCTION – RESULTED FROM PHD THESIS
Hao Li, Bart Adams, Leonidas J. Guibas, Mark Pauly
ACM Transactions on Graphics, Proceedings of the 2nd ACM SIGGRAPH Conference and Exhibition in Asia
(SIGGRAPH Asia 2009), 12/2009

FACE/OFF: LIVE FACIAL PUPPETRY (BEST PAPER AWARD) – RESULTED FROM PHD THESIS
Thibaut Weise, Hao Li, Luc Van Gool, Mark Pauly
Proceedings of the 8th ACM SIGGRAPH / Eurographics Symposium on Computer Animation
(SCA 2009), 08/2009

GLOBAL CORRESPONDENCE OPTIMIZATION FOR NON-RIGID REGISTRATION OF DEPTH SCANS – RESULTED FROM PHD THESIS
Hao Li, Robert W. Sumner, Mark Pauly
Computer Graphics Forum 27(5), Proceedings of the 6th Eurographics Symposium on Geometry Processing (SGP 2008), 07/2008

FIRST STEPS TOWARD THE AUTOMATIC REGISTRATION OF DEFORMABLE SCANS – RESULTED FROM PHD THESIS
Hao Li, Mark Pauly
Technical Report, ETH Zurich, 06/2007

STRUCTURED LIGHT BASED RECONSTRUCTION UNDER LOCAL SPATIAL COHERENCE ASSUMPTION
Hao Li, Raphael Straub, Hartmut Prautzsch
Proceedings of the 3rd IEEE International Symposium on 3D Data Processing, Visualization and Transmission (3DPVT 2006), 06/2006

REKONSTRUKTION FARBIGER OBJEKTE AUS STRUKTURIERT BELEUCHTETEN ANSICHTEN
Hao Li
Diplomarbeit, Universität Karlsruhe (TH), 06/2005

FAST SUBPIXEL ACCURATE RECONSTRUCTION USING COLOR STRUCTURED LIGHT
Hao Li, Raphael Straub, Hartmut Prautzsch
Proceedings of the Fourth IASTED International Conference on Visualization, Imaging and Image Processing (VIIP 2004), 09/2004

RECONSTRUCTION USING STRUCTURED LIGHT
Hao Li
Studienarbeit, Universität Karlsruhe (TH), 02/2004

INVITED TALKS

ROBUST NON-RIGID 3D ALIGNMENT AND APPLICATIONS
R&D Seminar, Vision Technologies, SRI International/Sarnoff Corporation, New Jersey, 07/2011

CAPTURE, RECONSTRUCT, TRACK, RIG, RETARGET!
Invited Talk, Princeton Computer Graphics Group, Princeton University, New Jersey, 08/2010

INVERSE ENGINEERING DYNAMIC SHAPES FOR COMPUTER ANIMATION
Invited Talk, Courant Institute of Mathematical Sciences, New York University, New York, 08/2010

ANIMATION RECONSTRUCTION
Invited Talk, Columbia Computer Graphics Group, Columbia University, New York, 08/2010

GENERATING BLENDSHAPES FROM EXAMPLES AND CAPTURING WATERTIGHT HUMAN PERFORMANCES
R&D Seminar, Industrial Light & Magic, Letterman Digital Arts Center, San Francisco, 08/2010

A PRACTICAL FACIAL ANIMATION SYSTEM: FROM CAPTURE TO RETARGETING
Research Seminar, Pixar Animation Studios, Emeryville, 08/2010

ART-DIRECTABLE AND DATA-DRIVEN FACIAL ANIMATION
Invited Talk, Institute of Animation, Visual Effects and Digital Postproduction, Filmakademie Baden-Württemberg, Ludwigsburg, 05/2010

ROBUST RECONSTRUCTION OF DYNAMIC SHAPES AND REAL-TIME FACIAL ANIMATION
Invited Talk, Institute for Creative Technologies, University of Southern California, Marina del Rey, 11/2009

DEFORMING GEOMETRY RECONSTRUCTION AND LIVE FACIAL PUPPETRY
R&D Seminar, Industrial Light & Magic, Letterman Digital Arts Center, San Francisco, 10/2009

ANIMATION RECONSTRUCTION FROM A SINGLE-VIEW
Invited Talk, Computer Graphics Department, Max-Planck-Institut für Informatik, Saarbrücken, 05/2009

ACTIVE SHAPE ACQUISITION: FROM IMAGES TO 3-D SURFACES
Invited Talk, Graduate School of Global Information and Telecommunication Studies, Waseda University, Tokyo, 06/2006

3D SCANNING FOR EVERYONE
Ninth SIAM Conference on Geometric Design and Computing (SIAM-GD'05), Phoenix, Arizona, 10/2005

SURFACE RECONSTRUCTION USING COLORED STRIPE PROJECTIONS
Graphics Lunch Seminar, Computer Graphics Laboratory, ETH Zurich, 09/2005

REKONSTRUKTION MIT STRUKTURIERTEM LICHT
First Status Report Meeting of the Institute for Scientific Computing and Mathematical Modeling, Universität Karlsruhe (TH), 04/2005

SOFTWARE

BeNTO 3D
http://www.bento3d.com
An easy to use geometry editing and processing application created exclusively for Mac. The Cocoa based tool distinguishes from other competitors in that development of additional plugins and GUI extensions are considerably simplified.

PROFESSIONAL ACTIVITIES

Reviewer

ACM SIGGRAPH 2008, 2009, and 2011
ACM SIGGRAPH Asia 2010 and 2011
ACM Transaction on Graphics 2010 and 2011
Symposium on Geometry Processing 2007 and 2008
Eurographics 2009, 2010, and 2011
Computer Graphics Forum 2010
3D Data Processing, Visualization and Transmission 2010
Non-rigid Shape Analysis and Deformable Image Alignment 2010 and 2011
Transactions on Visualization and Computer Graphics 2009
Transactions on Pattern Analysis and Machine Intelligence 2007
Asian Conference on Computer Vision 2010
Pacific Graphics 2009 and 2011
Vision, Modeling, and Visualization Workshop 2006
Geometric Modeling and Processing 2006

Program Committee

International Symposium on 3D Data Processing, Visualization and Transmission 2010
Workshop on Non-rigid Shape Analysis and Deformable Image Alignment 2010 and 2011

Session Chairman

Fourth IASTED International Conference on Visualization, Imaging and Image Processing 2004

Membership

ACM SIGGRAPH **06/2006 - ongoing**

Eurographics Association **08/2011 - ongoing**

EXTRACURRICULAR ACTIVITIES

Lucasfilm Training LDAC, Practical & CG Cinematography, San Francisco **08/2009**

Credit Suisse Group, Equity Derivatives Workshop, Zurich **03/2008**

McKinsey&Company, Business Technology Office's European Seminar, Portugal **05/2007**

TECHNICAL SKILLS

Operating Systems

Mac OS X, Linux/Unix, and Windows

Programming

IDEs	Apple Xcode, Microsoft Visual Studio
Languages	C/C++, Objective C, Python, and Java

Professional Tools

Zeno, Autodesk Maya, Autodesk 3ds MAX, Apple Final Cut Pro, Adobe AfterEffects, Adobe Photoshop, Adobe Illustrator, Wolfram Mathematica, and SPSS

MILITARY SERVICE

German Federal Armed Forces **11/1999 - 08/2000**

Division for Special Operations (DSO) - Airborne Brigade 26

2nd Company of the Antitank Parachute Battalion 262, Merzig, Germany

- German parachutist badge in bronze

REFERENCES

Prof. Dr. Mark Pauly

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Paul Pigott Professor of CS and EE
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Geometric Computing Group
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Tel +1 (650) 7230304
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