Gregory Nichols

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Address:
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Burbank, CA 91506
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Education:

Doctor of Philosophy (PhD) - May 2010
Computer Science (Interactive GPU-based Computer Graphics)
University of Iowa, Iowa City, IA
Advisor: Dr. Christopher Wyman

Master of Science (MS) - May, 2007
Computer Science
University of Iowa, Iowa City, IA

Bachelor of Science Degree - May, 2002
Central College, Pella, IA
Major: Computer Science
Minor: Mathematics

Work Experience:

Walt Disney Animation Studios, Burbank, CA
Senior Software Engineer
July 2010 - present
- Helped design, build, and maintain Disney's Hyperion production renderer
    Responsible for R&D and implementation of multiple subsystems
    Strong performance focus: algorithmic, multithreading, scalability
    Named inventor in 9 resulting patents
- Technology lead for an advanced pipeline R&D group
    Aimed at improving data and computation efficiency with both local and
    remote computation and storage
    The group's efforts spawned several larger studio technology initiatives
- Developed and consulted on many internal tools for feature film production
- Credited in 6 animated feature films

University of Iowa, Iowa City, IA
Teaching and Research Assistant (various roles)
August 2004 - May 2010

CartêGraph Systems Inc., Dubuque, IA
Software Engineer
May 1998 – August 1998, May 2000 – August 2000,
    December 2000 – January 2001, October 2001 – May 2002,
    August 2002 – August 2003
- Assisted in software development (C++ and VBScript) for several
    commercial and internal CartêGraph products
- Assisted in testing unreleased products for quality assurance

Fifth Ace Productions, LLC – Dubuque, IA (president and co-owner)
July 1999 – 2009
- Designed, developed, and maintained BeBits (http://www.bebits.com), a
    BeOS software site which often received over 500,000 daily impressions
    ("hits") and formerly included e-commerce services
- Designed, developed, and maintained websites for various organizations

Skill Highlights:	Fluent in C/C++; conversant in many other languages
	Expert in high quality and interactive rendering, multicore performance
	Production and research experience with OpenGL and other graphics APIs
	Experienced in designing architecture and APIs for robust systems
PhD Thesis:	Multiresolution Image-Space Rendering for Interactive Global Illumination
	Ph.D. Thesis, University of Iowa, July 2010
Publications:	Sorted Deferred Shading for Production Path Tracing
	Christian Eisenacher, Gregory Nichols, Andrew Selle, Brent Burley
	Eurographics Symposium on Rendering, June 2013
	Interactive, Multiresolution Image-Space Rendering for Dynamic Area Lighting
	Greg Nichols, Rajeev Penmatsa, and Chris Wyman
	Eurographics Symposium on Rendering, June 2010
	Interactive Indirect Illumination Using Adaptive Multiresolution Splatting
	Greg Nichols and Chris Wyman
	IEEE Transactions on Visualization and Computer Graphics, 2010
	Fast, Stencil-Based Multiresolution Splatting for Indirect Illumination
	Chris Wyman, Jeremy Shopf, and Greg Nichols
	GPU Pro: Advanced Rendering Techniques, pg. 199-214. AK Peters, 2010
	Hierarchical Image Space Radiosity for Interactive Global Illumination
	Greg Nichols, Jeremy Shopf, and Chris Wyman
	Eurographics Symposium on Rendering, June 2009
	Multiresolution Splatting for Indirect Illumination
	Greg Nichols and Chris Wyman
	ACM Symposium on Interactive 3D Graphics and Games, February 2009
	Adaptive Caustic Maps Using Deferred Shading
	Chris Wyman and Greg Nichols
	Computer Graphics Forum 28(2), 309-318, April 2009
Posters:	Direct Illumination from Dynamic Area Lights With Visibility
	Greg Nichols, Rajeev Penmatsa, and Chris Wyman
	ACM Symposium on Interactive 3D Graphics and Games, February 2010
	Voxel-Space Ambient Occlusion
	Rajeev Penmatsa, Greg Nichols, and Chris Wyman
	ACM Symposium on Interactive 3D Graphics and Games, February 2010
	Direct Illumination from Dynamic Area Lights
	Greg Nichols and Chris Wyman
	SIGGRAPH, August 2009
	Exploring Volume Rendering With Path Tracing
	Scott Davis, Xiaoqian Jiang, Greg Nichols, and James Cremer
	SIGGRAPH, August 2005

References available on request