

William B. Kerr

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interests

My research focuses on content creation for computer graphics, specifically interfaces for lighting and shading. I am looking for a position in a production environment that involves working with both artists and engineers to develop principled tools and workflows.

education

- 2006–now** **Dartmouth College**, Hanover, NH
PhD, Computer Science. Advisor: Fabio Pellacini
graduation: March 2011
- 2002–2006** **Trinity University**, San Antonio, TX
BS, Computer Science with minor in Mathematics
magna cum laude, honors thesis, Trinity Babbage Award

experience

industry

- summer 2010** **Graduate Associate**, Animation Technology, Disney Animation Studios
-material design/visualization interface development
-real-time environment lighting editor implementation
-physically-based rendering, lighting, material models, and production shaders

academic research

- 2006–now** **Research Assistant**, Computer Graphics, Dartmouth College
-rendering, lighting and shading, content creation, interactivity
-implemented variety of real-time lighting and material editing systems, deep frame buffer rendering techniques, interactive environmental illumination algorithms, keyframed animation editing, painting and compositing systems, and other rendering and formatting tools for graphics
- summer 2005** **Research Intern**, Medical Image Processing, DePaul University CTI
-machine segmentation and classification of computed tomography images
- summer 2004** **Research Intern**, Interactive Graphics Systems, Ithaca College
-designed virtual environments and tasks for stroke and muscular rehab

teaching

- spring 2011** **Course Instructor**, Dartmouth College
-Projects in Digital Arts, COSC42, undergraduate Digital Arts capstone
- fall 2010** **Course Instructor**, Dartmouth College
-Computer Graphics COSC52, undergraduate Computer Science elective
- 2006–2010** **Teaching Assistant**, Computer Graphics, Dartmouth College
-modeling, animation, and senior project courses taught in Maya
-2007 Outstanding TA Award, Computer Science Department

papers

journal publications

- 2011 Denning, J., Kerr, W. B., and Pellacini, F. ***MeshFlow: Interactive Visualization of Mesh Construction Sequences***. ACM Transactions on Graphics, SIGGRAPH 2011.
- 2010 Kerr, W. B., and Pellacini, F. ***Toward Evaluating Material Design Interface Paradigms for Novice Users***. ACM Transactions on Graphics, SIGGRAPH 2010.
- 2010 Kerr, W. B., Pellacini, F., and Denning, J. ***Bendylights: Artistic Control of Direct Illumination by Curving Light Rays***. Computer Graphics Forum, EGSR 2010.
- 2009 Kerr, W. B., and Pellacini, F. ***Toward Evaluating Lighting Design Interface Paradigms for Novice Users***. ACM Transactions on Graphics, SIGGRAPH 2009.

conference publications

- 2006 Kerr, W. B., Dettori, L., and Semler, L. ***A Methodology and Metric for Quantitative Analysis and Parameter Optimization of Unsupervised, Multi-region Image Segmentation***. IASTED SIP, 2006.
- 2006 Semler, L., Dettori, L., and Kerr, W. B. ***Ridgelet-based Texture Classification of Tissues in Computed Tomography***. IASTED SIP, 2006.

work in progress

- 2011 Kerr, W. B., and Pellacini, F. ***Study of Spatially-Varying Material Editing***. To be submitted to SIGGRAPH Asia 2011.

technical reports

- 2007 Kerr, W. B., and Pellacini, F. ***Light-Based Sample Reduction Methods for Interactive Relighting of Scenes with Minute Geometric Scale***. Tech. Rep. TR2007-600, Dartmouth College, Computer Science, 2007.

select skills

languages/APIs C, C++, Java, OpenGL, GLSL, HLSL, RenderMan, RSL, Python, Qt
software/OS Maya, 3ds Max, Blender, Photoshop, Matlab, Windows, Mac, Linux