

Jason Lawrence

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Education

Ph.D. in Computer Science, Princeton University (September 2006).
Thesis: Acquisition and Representation of Material Appearance for Rendering and Editing
M.S. in Computer Science, Princeton University (May 2003).
B.S. in Computer Science, Carnegie Mellon University (May 2001).

Employment

Assistant Professor, Department of Computer Science, University of Virginia, (July 2006 - present).

Honors and Awards

NVIDIA Professor Partner Award (2008).
National Science Foundation CAREER Award (2008).
National Defense Science and Engineering Graduate Fellowship (2001 - 2004).
Departmental Fellowship Award, Princeton University (2001).
Graduated first in class, Carnegie Institute of Technology (2001).

Professional Activities

Conference Committees:

Program Committee, SIGGRAPH (2008).
Program Committee, Eurographics Symposium on Rendering (2007,2008).
Program Committee, Pacific Graphics Conference (2006).
Posters Chair, Symposium on Interactive 3D Graphics (2005).

Journal Reviews:

Reviewer, numerous conferences and journals.

Conference Panels and Courses:

Co-organizer and instructor, "Spatially-Varying BRDF Models," Tutorial: Principles of Appearance Acquisition and Representation, *International Conference on Computer Vision (ICCV)*, 2007.

Publications

Journal and SIGGRAPH Publications:

1. Fabio Pellacini and Jason Lawrence,
"AppWand: Editing Measured Materials using Appearance-Driven Optimization,"
ACM Transactions on Graphics (Proc. SIGGRAPH), 26(3), July 2007.

2. Jason Lawrence, Aner Ben-Artzi, Christopher DeCoro, Wojciech Matusik, Hanspeter Pfister, Ravi Ramamoorthi, Szymon Rusinkiewicz,
“Inverse Shade Trees for Non-Parametric Material Representation and Editing,”
ACM Transactions on Graphics (Proc. SIGGRAPH), 25(3), July 2006.
3. Pieter Peers, Karl vom Berge, Wojciech Matusik, Ravi Ramamoorthi, Jason Lawrence, Szymon Rusinkiewicz, Phil Dutré,
“A Compact Factored Representation of Heterogeneous Subsurface Scattering,”
ACM Transactions on Graphics (Proc. SIGGRAPH), 25(3), July 2006.
4. Jason Lawrence and Thomas Funkhouser,
“A Painting Interface for Interactive Surface Deformations,”
Graphical Models, 66(6), November 2004.
5. Jason Lawrence, Szymon Rusinkiewicz, Ravi Ramamoorthi,
“Efficient BRDF Importance Sampling Using a Factored Representation,”
ACM Transactions on Graphics (Proc. SIGGRAPH), 23(3), August 2004.
6. Kallay Michael and Jason Lawrence,
“Improving the Two-Pass Resampling Algorithm,”
Journal of Graphics Tools, 8(2), January 2003.

Refereed Conference Publications:

7. Diego Nehab, Pedro V. Sander, Jason Lawrence, Natalya Tatarchuk, John R. Isidoro,
“Accelerating Real-Time Shading with Reverse Reprojection Caching,”
Graphics Hardware, San Diego, CA, August 2007.
8. Pete Weistroffer, Kristen R. Walcott, Greg Humphreys, Jason Lawrence,
“Efficient Basis Decomposition for Scattered Reflectance Data,”
Eurographics Symposium on Rendering, Grenoble, France, June 2007.
9. Jason Lawrence, Szymon Rusinkiewicz, Ravi Ramamoorthi,
“Numerical Cumulative Distribution Functions for Efficient Importance Sampling,”
Eurographics Symposium on Rendering, Konstanz, Germany, July 2005.
10. Trần-Quân Luong, Ankush Seth, Allison Klein, Jason Lawrence,
“Isoluminant Color Picking for Non-Photorealistic Rendering,”
Graphics Interface, Victoria, British Columbia, June 2005.
11. Jason Lawrence and Thomas Funkhouser,
“A Painting Interface for Interactive Surface Deformations,”
Pacific Graphics, Alberta, Canada, October 2003.

Other Publications:

12. Tim Weyrich, Jason Lawrence, Hendrik P.A. Lensch, Szymon Rusinkiewicz, Todd Zickler,
“Principles of Appearance Acquisition and Representation,”
Short Course ICCV 2007, Rio de Janeiro, Brazil, October 2007.
13. Jason Lawrence,
“Acquisition and Representation of Material Appearance for Editing and Rendering,”
Ph.D. Thesis, Princeton University, September 2006.

Academic Activities

University Service:

Member, committee on graduate curriculum (Fall 2007 -).

Member, committee on undergraduate curriculum (Fall 2006 - Spring 2007).

University Teaching:

“Advanced Computer Graphics,” CS451 (Spring 2008).

“Computer Vision,” CS651 (Spring 2007, Fall 2007).

“Data-Driven Models in Computer Graphics,” CS851 (Fall 2006).

Graduate Student Advising:

Colleen O’Hagan (1st year Ph.D. student)

Pitchaya Sitthi-amorn (1st year Ph.D. student)

Michael Holroyd (2nd year Ph.D. student)

Steven Baker (M.S. student)

Undergraduate Student Advising:

Senior thesis advisor, 6 students (Jen Dolson, Chris Forster, Dan Gantz, Lucas Gravitt, Jacob Harr, Ted Yokoyama)

Patents

1. Michael Kallay and Jason Lawrence,
“Systems and Methods for Providing Improved Two Pass Resampling,” filed 2001, granted 2004.

Grants

1. Principal investigator, “Automated Resource Allocation for Interactive Rendering Algorithms”, NVIDIA Professor Partnership, \$25,000 (2008 -).
2. Principal investigator, “CAREER: The Inverse Shade Tree Framework for Material Acquisition, Analysis, and Design,” NSF CAREER Award, CCF-0747220, \$400,000 (2008 - 2013).

Invited Lectures and Colloquia

Invited lecture, University of Pennsylvania (2006).

Invited lecture, University of Virginia (2006).

Invited lecture, Lehigh University (2006).

Invited lecture, MIT (2004).

Invited lecture, Mitsubishi Electric Research Labs (2004).

Invited lecture, Columbia University (2004).