

Stephen Lombardi

Last updated in November 2016

Cell: (856) 905 2980 , Email: stephen.a.lombardi <at> gmail.com , Web: www.stephenlombardi.com

Summary	Computer vision researcher aiming to advance the state of the art in virtual reality.	
Education	Drexel University , Philadelphia, PA Ph.D., Computer Science – Computer vision and graphics (3.97 GPA) Thesis: “Radiometric Scene Decomposition: Estimating Complex Reflectance and Natural Illumination from Images” Advised by Dr. Ko Nishino.	2009–2016
	Drexel University , Philadelphia, PA M.S., Computer Science (4.00 GPA)	2009–2012
	The College of New Jersey , Ewing, NJ B.S., Computer Science. Minors: Mathematics, Music. (3.643 GPA)	2005–2009
Experience	Postdoctoral Research Scientist Oculus Research, Pittsburgh, PA • Leveraging computer vision to enhance social virtual reality.	2016–Present
	Research Assistant Drexel University, Philadelphia, PA <i>Inverse Rendering</i> <ul style="list-style-type: none">• Responsible for the conception, development, and implementation of cutting-edge research on inverse rendering (i.e., the inference of reflectance, illumination, and geometry from images).• Studied the conditions under which we can invert the image formation process and learn the radiometric properties of a scene in the real world.• Developed models of reflectance and prior distributions for use in a Bayesian framework that enables inverse rendering through maximum a posteriori estimation.• Demonstrated successful inference of complex reflectance and natural illumination from images and rough geometry on synthetic and real-world scenes.• Published work in CVPR, ECCV, JOSA A, and TPAMI. <i>Human Gait Recognition</i> <ul style="list-style-type: none">• Developed a novel gait representation for person recognition and demonstrated state-of-the-art performance on OU-ISIR gait database.• Published work in ICCV.	2010–2016
	Founder Skewed Software, Cherry Hill, NJ <ul style="list-style-type: none">• Formed educational software company to create compelling educational games.• Conceptualized, developed, and deployed Mathemonkeys—a mathematics game for K–12 children in the classroom (http://www.skewedsoftware.com/mathemonkeys/).	2011–2016
	Teaching Assistant Drexel University, Philadelphia, PA <ul style="list-style-type: none">• Tutored and mentored students at introductory and advanced undergraduate levels.• Some lecture responsibilities.	2009–2010, 2012
	Information Security Intern Ernst & Young, New York, NY <ul style="list-style-type: none">• Performed penetration testing on client web applications.• Developed a Mozilla Firefox extension to aid in security testing by allowing the easy enable and disable of encryption ciphers.	2008

Junior Programmer The College of New Jersey, Ewing, NJ 2006–2009

- Developed internal web applications used by the college, including a web application to aid in the filing of grants, an application to help with IRB approval, and a web portal for students and faculty.
- Used PHP, SQL, AJAX, and other web 2.0 technologies.

Publications

Stephen Lombardi and Ko Nishino,
"Radiometric Scene Decomposition: Scene Reflectance, Illumination, and Geometry from RGB-D Images,"
 In Proceedings of the 4th International Conference on 3D Vision, October 2016

Stephen Lombardi and Ko Nishino,
"Reflectance and Illumination Recovery in the Wild,"
 Transactions on Pattern Analysis and Machine Intelligence, vol. 38, no. 1, pages 129–141, May 2015

Stephen Lombardi, Ko Nishino, Yasushi Makihara, and Yasushi Yagi,
"Two-Point Gait: Decoupling Gait from Body Shape,"
 In Proceedings of the 14th International Conference on Computer Vision, December 2013

Stephen Lombardi and Ko Nishino,
"Reflectance and Natural Illumination from a Single Image,"
 In Proceedings of the 12th European Conference on Computer Vision, October 2012 (**Oral**)

Stephen Lombardi and Ko Nishino,
"Single Image Multimaterial Estimation,"
 In Proceedings of IEEE Conference of Computer Vision and Pattern Recognition, June 2012

Ko Nishino, Louis Kratz, and Stephen Lombardi,
"Bayesian Defogging,"
 International Journal of Computer Vision, vol. 98, no. 3, pages 263–278, July 2012

Ko Nishino and Stephen Lombardi,
"Directional Statistics-based Reflectance Model for Isotropic Bidirectional Reflectance Distribution Functions,"
 Journal of the Optical Society of America A, vol. 28, no. 1, pages 8–18, January 2011

Relevant Skills

Programming Languages – C++, Python, Java
Libraries – NumPy, SciPy, NVIDIA CUDA, NVIDIA OptiX, OpenGL, OpenCV, C++ STL, Boost

Awards and Activities

Reviewer 2013–Present
 ICCV 2013, CVPR 2014, ECCV 2014, CVPR 2015, ICCV 2015, IJCV, SIGGRAPH ASIA, TPAMI

Doctoral Research Excellence Award – Highly Commended, Drexel University 2013

Jay Modi Award, Department of Computer Science, Drexel University 2012–2013
 In recognition of academic excellence and the potential to become a leader in the field.

Harry Brown, Jr. Endowed Fellowship, Drexel University 2012–2013

George Hill, Jr. Endowed Fellowship, Drexel University 2011–2012
 For potential to achieve academic excellence at the Ph.D. level.

Provost Fellowship, Drexel University 2009–2011
 For doctoral students who show excellent promise in their field of expertise.

Dean's Fellowship, Drexel University 2009–2010

Junior Computer Science Award , The College of New Jersey For outstanding performance and lasting contributions.	2008
Upsilon Pi Epsilon , Computer Science Honor Society Student chapter vice president (The College of New Jersey, 2008–2009) Member (2008–Present)	2008–Present
SISMAT '08 Secure Information Systems Mentoring and Training	2008
ACM Programming Contest Achieved as high as 4th place out of 48 among the Greater New York Region	2005–2008