

# Brian L. Curless

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## Educational History

Stanford University, Ph.D. in Electrical Engineering, June 1997  
Thesis: *New Methods for Surface Reconstruction from Range Images*

Stanford University, M.S. in Electrical Engineering, June 1991

University of Texas at Austin, B.S. in Electrical Engineering, May 1988

## Employment History

*Professor*, University of Washington, Department of Computer Science & Engineering (2010 – present).

*Sabbatical Visitor*, University of California, Berkeley, Department of Computer Science, (2011-2012).

*Associate Professor*, University of Washington, Department of Computer Science & Engineering (2003 – 2010).

*Co-editor-in-chief*, Foundations and Trends in Computer Graphics and Computer Vision (2003 – present).

*Sabbatical Visitor*, Columbia University, Department of Computer Science, (2004-2005).

*Assistant Professor*, University of Washington, Department of Computer Science & Engineering (1998 – 2003).

*Visiting Scientist*, Digital Michelangelo Project, Florence, Italy (Winter 1999).

*Scientific Advisory Board Member*, Paraform, Inc., Mountain View, CA (1998 – 2002).

*Research Associate*, Digital Michelangelo Project, Stanford University, with Professor Marc Levoy (1997).

*Research Assistant*, Stanford University, with Professor Marc Levoy (1991 - 1997).

*Software Contractor*, Silicon Graphics Inc., Mountain View, CA (1993).

*Research Engineer*, Remote Measurements Laboratory at SRI International, Menlo Park, CA (1988 - 1989).

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## Awards and Honors

UW ACM Teaching Award, University of Washington, (2004)  
Sloan Fellowship for Computer Science, University of Washington (2000)  
NSF CAREER Award, University of Washington (1999)  
Stanford Computer Science Department Arthur Samuel Thesis Award (1997)  
Achievement Rewards for College Scientists (ARCS) fellowship (1993)  
Gores Award for Teaching Excellence, Stanford (1992)  
Solid State Industrial Affiliates Fellowship, Stanford (1990)  
Graduated Summa cum Laude, University of Texas (1988)

## Publications

### Journal articles

1. Edward Zhang, Michael F. Cohen, and Brian Curless. Emptying, Refurnishing, and Relighting Indoor Spaces. *SIGGRAPH Asia / ACM Transactions on Graphics*, December 2016.
2. Alex Colburn, Aseem Agarwala, Aaron Hertzmann, Brian Curless, Michael F. Cohen. Image-Based Remodeling. *IEEE Transactions on Visualization and Computer Graphics*, January 2013.
3. Juliet Fiss, Aseem Agarwala, Brian Curless. Candid Portrait Selection from Video. *SIGGRAPH Asia / ACM Transactions on Graphics*, 30(6), December 2011.
4. Klute, G. K., Berge, J. S., Biggs, W., Pongnumkul, S., Popovic, Z., & Curless, B. (2011). Vacuum-assisted socket suspension compared with pin suspension for lower extremity amputees: effect on fit, activity, and limb volume. *Archives of physical medicine and rehabilitation*, 92(10), 1570-1575.
5. Pravin Bhat, Brian Curless, Michael F. Cohen, and C. Larry Zitnick. GradientShop: An Optimization Framework for Image and Video Processing, *ACM Transactions on Graphics*, 29(2): 1-14, 2010.
6. Dan B. Goldman, Brian Curless, Aaron Hertzmann, Steven M. Seitz. Shape and spatially-varying BRDFs from photometric stereo. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 32(6):1060-1071, 2010.
7. Wilmot Li, Maneesh Agrawala, Brian Curless, and David H. Salesin. Automated generation of interactive 3D exploded view diagrams. *ACM Transactions on Graphics (SIGGRAPH 2008)*, 27(3): article 101, 2008.
8. Wilmot Li, Lincoln Ritter, Maneesh Agrawala, Brian Curless, David H. Salesin. Interactive Cutaway Illustration of Complex 3D Models. *ACM Transactions on Graphics (SIGGRAPH 2007)*, 26(3):article 31, 2007.
9. Dhruv Mahajan, Ravi Ramamoorthi, and Brian Curless. A Theory of Frequency Domain Invariants: Spherical Harmonic Identities for BRDF / Lighting Transfer and Image Consistency. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 30(2):197-213, 2007.
10. Dan B. Goldman, Brian Curless, David H. Salesin, Steven M. Seitz. Schematic storyboarding for video editing and visualization. *ACM Transactions on Graphics (SIGGRAPH 2006)*, 25(3):862-871, 2006.

11. Yung-Yu Chuang, Dan B. Goldman, Colin Zheng, Brian Curless, David H. Salesin, and Richard Szeliski. Animating pictures with stochastic motion textures. *ACM Transactions on Graphics (SIGGRAPH 2005)*, 24(3):853-860, 2005.
12. Aseem Agarwala, Colin Zheng, Chris Pal, Maneesh Agrawala, Michael F. Cohen, Brian Curless, David H. Salesin, and Richard Szeliski. Panoramic video textures. *ACM Transactions on Graphics (SIGGRAPH 2005)*, 24(3):821-827, 2005.
13. Li Zhang, Noah Snavely, Brian Curless, and Steven M. Seitz. Spacetime faces: high resolution capture for modeling and animation. *ACM Transactions on Graphics (SIGGRAPH 2004)*, 23(3):548-558, 2004.
14. Aseem Agarwala, Mira Dontcheva, Maneesh Agrawala, Steven Drucker, Alex Colburn, Brian Curless, David H. Salesin, and Michael F. Cohen. Interactive digital photomontage. *ACM Transactions on Graphics (SIGGRAPH 2004)*, 23(3):294-302, 2004.
15. Brett Allen, Brian Curless, and Zoran Popović. The space of human body shapes: reconstruction and parameterization from range scans. *ACM Transactions on Graphics (SIGGRAPH 2003)*, 22(3):587-594, 2003.
16. Yung-Yu Chuang, Dan B. Goldman, Brian Curless, David H. Salesin, and Richard Szeliski. Shadow matting and compositing. *ACM Transactions on Graphics (SIGGRAPH 2003)*, 22(3):494-500, 2003.

### Refereed conference papers

1. Juliet Fiss, Brian Curless, Rick Szeliski. Light Field Layer Matting. *Computer Vision and Pattern Recognition (CVPR)*, June 2015.
2. Qi Shan, Changchang Wu, Brian Curless, Yasutaka Furukawa, Carlos Hernandez and Steven M. Seitz. Accurate Geo-registration by Ground-to-Aerial Image Matching. *3DV (3D Vision) 2014*, December 2014.
3. Qi Shan, Brian Curless, Yasutaka Furukawa, Carlos Hernandez and Steven M. Seitz, Photo Uncrop. *Proceedings of European Conference on Computer Vision (ECCV)*, September 2014.
4. Qi Shan, Brian Curless, Yasutaka Furukawa, Carlos Hernandez and Steven M. Seitz, Occluding Contours for Multi-View Stereo. *Computer Vision and Pattern Recognition (CVPR)*, June 2014.
5. Juliet Fiss, Brian Curless, and Richard Szeliski. Refocusing Plenoptic Images using Depth-Adaptive Splatting. *IEEE International Conference on Computational Photography (ICCP)*, May 2014.
6. Ankit Gupta, Maneesh Agrawala, Brian Curless, and Michael F. Cohen. MotionMontage: A System to Annotate and Composite Motion Takes for 3D Animations. *CHI 2014*, April 2014.
7. Qi Shan, Brian Curless, Yasutaka Furukawa, Steven M. Seitz. The Visual Turing Test for 3D Scene Reconstruction. *3DV (3D Vision) 2013*, June 2013.
8. Avanish Kushal, Ben Self, Yasutaka Furukawa, David Gallup, Carlos Hernandez, Brian Curless, Steven M. Seitz. Photo Tours. *3DIMPVT 2012*, October 2012.
9. Dikpal Reddy, Ravi Ramamoorthi, and Brian Curless. Frequency-Space Decomposition and Acquisition of Light Transport under Spatially Varying Illumination. *Proceedings of European Conference on Computer Vision (ECCV)*, October 2012.

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10. Ankit Gupta, Dieter Fox, Brian Curless, Michale Cohen. DuploTrack: A Reatime System for Authoring and Guiding Duplo Block Assembly. *ACM Symposium on User Interface Software and Technology (UIST)*, October 2012.
11. Robert T. Held, Ankit Gupta, Brian Curless, Maneesh Agrawala. 3D Puppetry: A Kinect-based Interface for 3D Animation. *ACM Symposium on User Interface Software and Technology (UIST)*, October 2012.
12. Qi Shan, Sameer Agarwal, Brian Curless. Refractive Height Fields from Single and Multiple Images. *Computer Vision and Pattern Recognition (CVPR)*, June 2012.
13. Changchang Wu, Sameer Agarwal, Brian Curless, and Steven M. Seitz. Schematic Surface Reconstruction. *Computer Vision and Pattern Recognition (CVPR)*, June 2012.
14. Changchang Wu, Brian Curless, Steven M. Seitz. Mutli-core bundle adjustment. *2011 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, June 2011.
15. Ankit Gupta, Neel Joshi, C. Lawrence Zitnick, Michael F. Cohen, and Brian Curless. Single image deblurring using motion density functions. In *Proceedings of the European Conference on Computer Vision (ECCV 2010)*, vol. 6311, pp. 171-184, Crete, Greece, September 2010.
16. Qi Shan, Brian Curless, Todayoshi Kohno. Seeing through obscure glass. In *Proceedings of the European Conference on Computer Vision (ECCV 2010)*, vol. 6316, pp. 264-378, Crete, Greece, September 2010.
17. Yasutaka Furukawa, Brian Curless, Steven M. Seitz, and Richard Szeliski. Towards internet-scale multi-view stereo. In *Proceedings of the Conference on Computer Vision and Pattern Recognition 2010 (CVPR 2010)*, pp. 1434-1441, San Francisco, CA, June 2010.
18. Yasutaka Furukawa, Brian Curless, Steven M. Seitz, and Richard Szeliski. Reconstructing building interiors from images. In *Proceedings of the 12<sup>th</sup> IEEE International Conference on Computer Vision (ICCV 2009)*, Kyoto, Japan, September 2009. (Oral)
19. Yasutaka Furukawa, Brian Curless, Steven M. Seitz, and Richard Szeliski. Manhattan-world stereo. In *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition 2009 (CVPR 2009)*, pp. 1422-1429, Miami Beach, FL, June 2009.
20. Ankit Gupta, Pravin Bhat, Mira Dontcheva, Oliver Deussen, Brian Curless, Michael F. Cohen. Enhancing and experiencing spacetime resolution with videos and stills. In *Proceedings of the First IEEE International Conference on Computational Photography (ICCP 2009)*, San Francisco, CA, April 2009.
21. Ke Colin Zheng, Alex Colburn, Aseem Agarwala, Maneesh Agrawala, David H. Salesin, Brian Curless, and Michael F. Cohen. Parallax photography: creating 3D cinematic effects from stills. In *Proceedings of Graphics Interface 2009*, pp. 111-118, Kelowna, British Columbia, Canada, May 2009. (Best student paper award)
22. Dan B. Goldman, Chris Gonterman, Brian Curless, David H. Salesin, and Steven M. Seitz. Video object annotation, navigation, and composition. In *Proceedings of the 21<sup>st</sup> Annual Symposium on User Interface Software Technology (UIST 2008)*, pp. 3-12, Monterey, CA, October, 2008.
23. Pravin Bhat, Brian Curless, Michael F. Cohen, and C. Lawrence Zitnick. Fourier analysis of the 2D screened Poisson equation for gradient domain problems. In *Proceedings of the European Conference on Computer Vision (ECCV 2008)*, pp. 114-128, Marseilles, France, October 2008.
24. Michael Goesele, Noah Snavely, Brian Curless, Hugues Hoppe, and Steven M. Seitz. Multi-view stereo for community photo collections. In *Proceedings of the 11<sup>th</sup> IEEE International*

*Conference on Computer Vision (ICCV 2007)*, pp. 1-8, Rio de Janeiro, Brazil, October 2007.  
(Oral)

25. Pravin Bhat, C. Lawrence Zitnick, Noah Snavely, Aseem Agarwala, Maneesh Agrawala, Michael F. Cohen, Brian Curless, and Sing Bing Kang. Using Photographs to Enhance Videos of a Static Scene. In *Proceedings of the 18<sup>th</sup> Eurographics Symposium on Rendering*, (EGSR 2007), Grenoble, France, June 2007.
26. Brett Allen, Brian Curless, Zoran Popović, and Aaron Hertzmann. Learning a correlated model of identity and pose-dependent body shape variation for real-time synthesis. In *Proceedings of the 2006 ACM SIGGRAPH / Eurographics Symposium on Computer Animation (SCA '06)*, pp. 147-156, Vienna, Austria, September 2006.
27. Lincoln Ritter, Wilmot Li, Maneesh Agrawala, Brian Curless, and David H. Salesin. Painting with Texture. In *Proceedings of the 17<sup>th</sup> Eurographics Symposium on Rendering*, (EGSR 2006), Nicosia, Cyprus, 2006.
28. Todor Georgiev, Ke Colin Zheng, Brian Curless, David H. Salesin, Shree Nayar, and Chintan Intwala. Spatio-angular resolution tradeoff integral photography. In *Proceedings of the 17<sup>th</sup> Eurographics Symposium on Rendering* (EGSR 2006), pp. 263-272, Nicosia, Cyprus, June 2006.
29. Steven M. Seitz, Brian Curless, James Diebel, Daniel Scharstein, and Richard Szeliski. A comparison and evaluation of multi-view stereo reconstruction algorithms. In *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition 2006 (CVPR 2006)*, vol. 1, pp. 519-528, New York, NY, June 2006. (Oral)
30. Michael Goesele, Brian Curless, and Steven M. Seitz. Multi-view stereo revisited. In *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition 2006 (CVPR 2006)*, vol. 2, pp. 2402-2409, New York, NY, June 2006.
31. Pravin Bhat, Ke Colin Zheng, Noah Snavely, Aseem Agarwala, Maneesh Agrawala, Michael F. Cohen, Brian Curless. Piecewise image registration in the presence of large motions. In *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition 2006 (CVPR 2006)*, vol. 2, pp. 2491-2497, New York, NY, June 2006.
32. Dhruv Mahajan, Ravi Ramamoorthi and Brian Curless. A theory of spherical harmonic identities for BRDF/lighting transfer and image consistency. In *Proceedings of the European Conference on Computer Vision (ECCV 2006)*, pp. 45-51, Graz, Austria, May 2006. (Oral)
33. Dan B. Goldman, Brian Curless, Aaron Hertzmann, and Steven M. Seitz. Shape and spatially-varying BRDFs from photometric stereo. In *Proceedings of Tenth IEEE International Conference on Computer Vision (ICCV 2005)*, vol. 1, pp. 341-348, Beijing, China, November 2005.
34. Steve Capell, Matthew Burkhart, Brian Curless, Tom Duchamp, and Zoran Popović. Physically Based Rigging for Deformable Characters. In *Proceedings of the 2005 ACM SIGGRAPH / Eurographics Symposium on Computer Animation (SCA '05)*, pp. 301-310, Los Angeles, CA, August 2005.
35. Brett Allen, Brian Curless, and Zoran Popović. Exploring the space of human body shapes: Data-driven synthesis under anthropometric control. In *Proceedings of the SAE Digital Human Modeling for Design and Engineering Conference*, pp. 245-248, Rochester, MI, June 2004.
36. Li Zhang, Brian Curless, and Steven M. Seitz. Shape and motion under varying illumination: unifying structure from motion, photometric stereo, and multi-view stereo. In *Proceedings of the Ninth IEEE International Conference on Computer Vision (ICCV 2005)*, vol. 1, pp. 341-348, Nice, France, October 2003.

37. Li Zhang, Brian Curless, and Steven M. Seitz. Spacetime stereo: shape recovery for dynamic scenes. In *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition 2003 (CVPR 2003)*, vol. 2, pp. 367-374, Madison, WI, June 2003.
38. Daniel Azuma, Daniel Wood, Brian Curless, Tom Duchamp, David H. Salesin, and Werner Stuetzle. View-dependent refinement of multiresolution meshes with subdivision connectivity. In *Proceedings of the 2<sup>nd</sup> International Conference on Computer Graphics, Virtual Reality, Visualization, and Interaction (Afrigraph 2003)*, pp. 69-78, Capetown, South Africa, February 2003.
39. Brett Allen, Brian Curless, and Zoran Popović. Articulated body deformation from range scan data. In *Proceedings of the 29<sup>th</sup> Annual Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 2002)*, pp. 612-619, San Antonio, Texas, July 2002.
40. Steve Capell, Seth Green, Brian Curless, Tom Duchamp, Zoran Popović. Interactive skeleton-driven dynamic deformations. In *Proceedings of the 29<sup>th</sup> Annual Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 2002)*, pp. 586-593, San Antonio, Texas, July 2002.
41. Yung-Yu Chuang, Aseem Agarwala, Brian Curless, David H. Salesin, and Richard Szeliski. Video matting of complex scenes. In *Proceedings of the 29<sup>th</sup> Annual Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 2002)*, pp. 243-248, San Antonio, Texas, July 2002.
42. Steve Capell, Seth Green, Brian Curless, Tom Duchamp, and Zoran Popović. A multiresolution framework for dynamic deformations. In *Proceedings of the 2002 ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA '02)*, pp. 41-47, San Antonio, Texas, July 2002.
43. Aaron Hertzmann, Nuria Oliver, Brian Curless, and Steven M. Seitz. Curve analogies. In *Proceedings of the 13<sup>th</sup> Eurographics Workshop on Rendering (EGWR 2002)*, pp. 233-245, Pisa, Italy, June 2002.
44. Li Zhang, Brian Curless, and Steven M. Seitz. Rapid shape acquisition using color structured light and multi-pass dynamic programming. In *Proceedings of the First IEEE International Symposium on 3D Data Processing Visualization and Transmission (3DPVT 2002)*, pp. 24-36, Padova, Italy, June 2002.
45. Yung-Yu Chuang, Brian Curless, David H. Salesin, and Richard Szeliski. A Bayesian approach to digital matting. In *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition 2001 (CVPR 2001)*, vol. 2, pp. 264-271, Kauai, Hawaii, December 2001.
46. Aaron Hertzmann, Charles Jacobs, Nuria Oliver, Brian Curless, and David H. Salesin. Image analogies. In *Proceedings of the 28<sup>th</sup> Annual Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 2001)*, pp. 327-340, Los Angeles, CA, August 2001.
47. Marc Levoy, Kari Pulli, Brian Curless, Szymon Rusinkiewicz, David Koller, Lucas Pereira, Matt Ginzton, Sean Anderson, James Davis, Jeremy Ginsberg, Jonathan Shade, and Duane Fulk. The Digital Michelangelo Project: 3D scanning of large statues. In *Proceedings of the 27<sup>th</sup> Annual Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 2000)*, pp. 131-144, New Orleans, LA, July, 2000.
48. Daniel Wood, Daniel Azuma, Wyvern Aldinger, Brian Curless, Tom Duchamp, David H. Salesin, and Werner Stuetzle. Surface light fields for 3D photography. In *Proceedings of the 27<sup>th</sup> Annual Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 2000)*, pp. 287-296, New Orleans, LA, July, 2000.

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49. Yung-Yu Chuang, Douglas Zongker, Joel Hindorff, Brian Curless, David H. Salesin, and Richard Szeliski. Extensions to environment matting: towards higher accuracy and real-time capture. In *Proceedings of the 27<sup>th</sup> Annual Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 2000)*, pp. 121-130, New Orleans, LA, July 2000.
50. Douglas Zongker, Dawn Werner, Brian Curless, and David H. Salesin. Environment matting and compositing. In *Proceedings of the 26<sup>th</sup> Annual Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 1999)*, pp. 205-214, Los Angeles, CA, August 1999.
51. Brian Curless and Marc Levoy. A volumetric method for building complex models from range images. In *Proceedings of the 23<sup>rd</sup> Annual Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 1996)*, pp. 303-312, New Orleans, LA, August 1996.
52. Brian Curless and Marc Levoy. Better optical triangulation through spacetime analysis. In *Proceedings of the Fifth IEEE International Conference on Computer Vision (ICCV 1995)*, pp. 987-994, Boston, MA, June 1995.
53. William Weeks and Brian Curless. A real-time, multichannel system with parallel digital signal processors. In *Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 1990)*, vol. 3, pp. 1787-1790, Albuquerque, NM, April 1990.

### **Invited papers**

1. S. Agarwal, Y. Furukawa, N. Snavely, I. Simon, B. Curless, S. M. Seitz and R. Szeliski. Building Rome in a Day. *Communications of the ACM*, Vol. 54, No. 10, Pages 105-112, October 2011.
2. Sameer Agarwal, Yasutaka Furukawa, Noah Snavely, Brian Curless, Steven M. Seitz, and Richard Szeliski. Reconstructing Rome. *IEEE Computer*, 43(6):40-47, June 2010.
3. Brian Curless. From range scans to 3D models. *ACM SIGGRAPH Computer Graphics*, 33(4): 38-41, 1999.

### **Technical reports**

1. Ke Colin Zheng, Alex Colburn, Aseem Agarwala, Maneesh Agrawala, David H. Salesin, Brian Curless, and Michael F. Cohen. A Consistent Segmentation Approach to Image-based Rendering. Computer Science & Engineering Technical Report UW-CSE-09-03-02, University of Washington, Seattle, WA, March 2009.
2. Pravin Bhat, Brian Curless, Michael F. Cohen, and C. Larry Zitnick. A Perceptually-Motivated Optimization-Framework for Image and Video Processing. Computer Science & Engineering Technical Report UW-CSE-08-06-02 University of Washington, Seattle, WA, June 2008.
3. Ankit Gupta, Pravin Bhat, Mira Dontcheva, Oliver Deussen, Brian Curless, Michael F. Cohen. Enhancing and Experiencing Spacetime Resolution with Videos and Stills. Computer Science & Engineering Technical Report UW-CSE-08-04-01, University of Washington, Seattle, WA, April 2008.
4. Dan B. Goldman, Chris Gonterman, Brian Curless, David H. Salesin, and Steven M. Seitz. Interactive Video Object Annotation. Computer Science & Engineering Technical Report UW-CSE-07-04-01, University of Washington, Seattle, WA, April 2007.

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5. Yung-Yu Chuang, Dan B. Goldman, Colin Zheng, Brian Curless, David H. Salesin, and Richard Szeliski. Animating Pictures with Stochastic Motion Textures. Computer Science & Engineering Technical Report UW-CSE-04-04-02, University of Washington, Seattle, WA, April 2004.
6. Steve Capell, Seth Green, Brian Curless, Tom Duchamp, and Zoran Popović. A Multiresolution Framework for Dynamic Deformations. Computer Science & Engineering Technical Report UW-CSE-02-04-02, University of Washington, Seattle, WA, April 2002.
7. Daniel Azuma, Daniel Wood, Brian Curless, Tom Duchamp, David H. Salesin, and Werner Stuetzle. View-dependent Refinement of Multiresolution Meshes with Subdivision Connectivity. Computer Science & Engineering Technical Report UW-CSE-01-10-02, University of Washington, Seattle, WA, October 2001.
8. Brian Curless, New Methods for Surface Reconstruction from Range Images. Computer Systems Laboratory Technical Report CSL-TR-97-733, Stanford University, Stanford, CA, June 1997.
9. Brian Curless and Marc Levoy. Better Optical Triangulation through Spacetime Analysis. Computer Systems Laboratory Technical Report CSL-TR-95-667, Stanford University, Stanford, CA, April 1995.

### **Other significant dissemination**

1. Li Zhang, Brian Curless, and Steven M. Seitz, 3D face motion data (<http://grail.cs.washington.edu/software-data/stfaces>), 2004.
2. Brett Allen, Brian Curless, and Zoran Popović, 3D human body scan data of arm, shoulder, and torso (<http://grail.cs.washington.edu/software-data/scans/>), 2003.
3. Daniel Wood, Daniel Azuma, Wyvern Aldinger, Brian Curless, Tom Duchamp, David H. Salesin, and Werner Stuetzle. Surface light field datasets (<http://grail.cs.washington.edu/projects/slf/data/raw/>), 2001.
4. Yung-Yu Chuang, Brian Curless, and Marc Levoy. Snoop for MS Windows, software for zooming in on images ([http://www.csie.ntu.edu.tw/~cyy/projects/snoop\\_win/index.html](http://www.csie.ntu.edu.tw/~cyy/projects/snoop_win/index.html)), 2000-present.
5. Brian Curless and Marc Levoy. VripPack: Volumetric Range Image Processing Package. Brian Curless, software system available on the web (<http://grail.cs.washington.edu/software-data/vrip/>), 1999-present.
6. Brian Curless and Marc Levoy (creators), Stanford 3D Scanning Repository (<http://graphics.stanford.edu/data/3Dscanrep/>), 1996-present.

### **Other Scholarly Activity**

#### **Keynote and distinguished lecturer talks**

1. “Multi-view Stereo: Out of the Petri Dish and into the Wild” (Keynote), International Workshop on 3-D Digital Imaging and Modeling, ICCV, Kyoto, Japan, October 2009.
2. “Capturing Visual Experiences” (Keynote), British Machine Vision Conference, Edinburgh, Scotland, September 2006.



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3. “The space of human body shapes” (Distinguished Lecture), Adobe Distinguished Lecturer Series, Adobe, San Jose, CA, October 2006.
4. “Getting more from physics, photos, and videos” (Keynote), Imagina 2006, Monte Carlo, Monaco, February 2006.
5. “The space of human body shapes” (Keynote), Indian Conference on Computer Vision, Graphics & Image Processing, Calcutta, India, December 2004.

### **Invited talks**

1. “New results on indoor reconstruction at UW”, Zillow, Seattle, WA, September 2016.
2. “The Space of Human Body Shapes and Photo/Video Enhancement,” *Casual Connect Seattle 2009*, Seattle, WA, July 2009.
3. “Graphics research at UW,” Weta Digital, Wellington, New Zealand, February 2007.
4. “Capturing Visual Experiences,” University of Sydney, Sydney, Australia, February 2007.
5. “The space of human body shapes,” University of Belgrade, Belgrade, Serbia, May 2006.
6. “The space of human body shapes,” University of the Witwatersrand, Johannesburg, South Africa, June 2005.
7. “The space of human body shapes,” University of Cape Town, Cape Town, South Africa, June 2005.
8. “The space of human body shapes,” New York University, New York, NY, May 2005.
9. “The space of human body shapes,” Sarnoff Corporation, Princeton, NJ, March 2005.
10. “The space of human body shapes,” Hunter College, New York, NY, March 2005.
11. “Surface reconstruction: volumetric and template-based approaches,” Columbia University, New York, NY, February 2005.
12. “The space of human body shapes,” Princeton University, Princeton, NJ, November 2004.
13. “The space of human body shapes,” Industrial Light and Magic, San Rafael, CA, July 2004.
14. “Spacetime faces: high resolution capture for modeling and animation” (with Li Zhang), *ICT Workshop: Frontiers of Facial Animation*, Marina del Rey, CA, August 2004.
15. “Image-based reflection,” Tutorial on Image-based Rendering tutorial, *IEEE International Conference on Computer Vision (ICCV 2003)*, Nice, France, October 2003.
16. “Generalized matting and compositing,” Computer Vision Laboratory, University of Tokyo, Tokyo, Japan, October 2001.
17. “Building Complex Models from Range Images,” Tutorial on Digital Geometry Processing, *SIGGRAPH 2001*, Los Angeles, CA, August 2001.
18. “Environment matting and compositing,” *Workshop on the Convergence of Graphics, Vision, and Video*, Berkeley, CA, March 2001.

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19. "Environment matting and compositing," *Special Session on Convergence of Image/Video Processing, Computer Vision, and Computer Graphics, 2000 International Conference on Image Processing*, Vancouver, Canada, September 2000.
20. "Surface light fields for 3D photography and the Digital Michelangelo Project," GMD, German Nat'l Research Center for Information Technology, Sankt Augustin, Germany, June 2000.
21. "Surface light fields for 3D photography," *Dagstuhl Seminar on Image Synthesis and Interactive 3D Graphics*, Wadern, Germany, June 2000.
22. "The Digital Michelangelo Project," *Workshop on Reality-based Modeling and Applications in Reverse Engineering, Computer Graphics, and VR, IEEE International Conference on Robotics and Automation 2000*, San Francisco, CA, April 2000.
23. "Building Complex Models from Range Images," Tutorial on Practical Generation of Models from Acquired Data, SIGGRAPH '99, Los Angeles, CA, 1999.
24. "The Digital Michelangelo Project," University of Washington Saturday Seminar, October 1998.
25. "Building Complex Models from Range Images," Boeing Corporation, Bellevue, WA, April 1998.
26. "Acquiring, Building, and Rendering Complex 3D Models," University of California, Los Angeles, CA, March 1997.
27. "Acquiring, Building, and Rendering Complex 3D Models," University of Texas, Austin, TX, March 1997.
28. "Acquiring, Building, and Rendering Complex 3D Models," Princeton University, Princeton, NJ, March 1997.
29. "Acquiring, Building, and Rendering Complex 3D Models," University of Washington, Seattle, WA, April 1997.
30. "Acquiring, Building, and Rendering Complex 3D Models," Microsoft Research, Redmond, WA, April 1997.
31. "Building Complex Models from Range Images," SIAM Conference on Geometric Design, Nashville, TN, November 1997.
32. "Building Complex Models from Range Images," Cyra Technologies, Orinda, CA, 1996.
33. "Building Complex Models from Range Images," Rockwell International, Thousand Oaks, CA, 1996.
34. "Building Complex Models from Range Images," 3D Systems, Valencia, CA, 1996.

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### **Presentations given at conferences**

1. **Steven M. Seitz, Brian Curless**, James Diebel, Daniel Scharstein, and Richard Szeliski. A comparison and evaluation of multi-view stereo reconstruction algorithms. In *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition 2006 (CVPR 2006)*, vol. 1, pp. 519-528, New York, NY, June 2006.
2. Li Zhang, **Brian Curless**, and Steven M. Seitz. Rapid shape acquisition using color structured light and multi-pass dynamic programming. In *Proceedings of the First IEEE International Symposium on 3D Data Processing Visualization and Transmission (3DPVT 2002)*, pp. 24-36, Padova, Italy, June 2002.
3. **Yung-Yu Chuang, Douglas Zongker**, Joel Hindorff, **Brian Curless**, David H. Salesin, and Richard Szeliski. Extensions to environment matting: towards higher accuracy and real-time capture. In *Proceedings of the 27<sup>th</sup> Annual Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 2000)*, pp. 121-130, New Orleans, LA, July 2000.
4. **Brian Curless** and Marc Levoy. A volumetric method for building complex models from range images. In *Proceedings of the 23<sup>rd</sup> Annual Conference on Computer Graphics and Interactive Techniques (SIGGRAPH 1996)*, pp. 303-312, New Orleans, LA, August 1996.

### **Tutorials organized**

1. "3D Photography," co-organized with Steve Seitz, *SIGGRAPH 2000*, New Orleans, LA, July 2000.
2. "3D Photography," co-organized with Steve Seitz, *SIGGRAPH 1999*, Los Angeles, CA, August 1999.
3. "3D Photography," co-organized with Steve Seitz, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR 1999)*, Fort Collins, CO, June 1999.

### **Professional society memberships**

Association for Computing Machinery (1998-present)  
IEEE Computer Society (1998-present)

### **Students**

#### ***Current Ph.D. advisees:***

- Juliet Bernstein (with Rick Szeliski)
- Aleksander Hołyński (with Steve Seitz)
- Isaac Tian
- Chung-Yi Weng (with Ira Kemelmacher)
- Edward Zhang (with Michael Cohen)

#### ***Current postdoc advisees:***

- Kostas Rematas (with Ira Kemelmacher and Steve Seitz)
- Chris Sweeney (with Steve Seitz)

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***Undergraduate degrees:***

- Ben Self, B.S. in 2011.
- Jill Edwards, B.S. in 2008.
- Chris Gonterman, B.S. in 2008, currently Ph.D. student at University of Toronto.
- Sharon Lin, B.S. in 2008, currently Ph.D. student at Stanford University.
- Matthew Burkhart, B.S. in 2005, currently at Google.
- Ethel Evans, B.S. in 2004.
- Kenneth (Wyvern) Aldinger, B.S. in 2000, currently at Microsoft Corporation.
- Jake Russel, B.S. in 1999, currently at LizardTech.

***Graduate degrees:***

- Qi Shan, *Photo-Realistic Scene Modeling and Visualization using Online Photo Collections*, Ph.D., 2015, with Steve Seitz, currently at Zillow.
- Alex Colburn, *Image-Based Remodeling: A Framework for Creating, Visualizing, and Editing Image-Based Models*, Ph.D., 2014, with Michael Cohen, currently at Amazon
- Ankit Gupta, *Interactive Playspaces for Object Assembly and Digital Storytelling*, Ph.D., 2013, with Michael Cohen, currently at Microsoft
- Dan Leventhal, M.S., 2012, with Aseem Agarwala and Dan Goldman, currently at Tableau
- Pravin Bhat, *Gradient Shop: A Gradient-Doman Optimization Framework for Image and Video Processing*, Ph.D. 2009, co-advised with Michael Cohen, currently at Technical Illusions.
- Daniel Goldman, *A framework for video, annotation, visualization and interaction*, Ph.D. 2008, co-advised with David Salesin and Steve Seitz, currently at Adobe
- Wilmot Li, *Interactive illustrations of complex objects*, Ph.D. 2008, co-advised with Maneesh Agarwala and David Salesin, currently at Adobe
- Ke (Colin) Zheng, *Parallax Photography: Creating 3D Motion from Stills*, Ph.D. 2008, co-advised with Michael Cohen and David Salesin, currently at Goldman Sachs
- Brett Allen, *Learning Body Shape Models from Real-World Data*, Ph.D. 2005, co-advised with Zoran Popović, currently at Google
- Li Zhang, *Spacetime Stereo and Its Application*, Ph.D. 2005, co-advised with Steve Seitz, currently at Google
- Steve Capell, *Interactive character animation using dynamic elastic simulation*, Ph.D. 2004, co-advised with Tom Duchamp and Zoran Popović, currently at Bangla-Tangla.
- Yung-Yu Chuang, *New models and methods for matting and compositing*, Ph.D. 2004, co-advised with David Salesin and Rick Szeliski, currently faculty at National Taiwan University
- Daniel Wood, *Surface light fields for 3D photography*, Ph.D. 2004, co-advised with Tom Duchamp, Steve Seitz, and Werner Stuetzle, currently at Microsoft
- Daniel Azuma, M.S. 2000, co-advised with David Salesin
- Chris Prince, M.S. 2000
- Dawn Werner, M.S. 1999, co-advised with David Salesin, currently at FiftyThree

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***Post doctoral advisees:***

- Changchang Wu, 2009-2010, with Steve Seitz, currently at Google.
- Yasutaka Furukawa, 2008-2009, with Steve Seitz, currently at Google.
- Michael Goesele, 2005-2007, with Steve Seitz, currently faculty at TU Darmstadt.
- Aaron Hertzmann, 2001-2002, with Steve Seitz and Zoran Popović, currently at Adobe Research.

***Other past student advisees:***

- Avanish Kushal, with Steve Seitz and Yasu Furukawa.
- Aseem Agrawala, with David Salesin, currently at Adobe.
- Seth Green, with Tom Duchamp and Zoran Popović.
- Joel Hindorff, with David Salesin.
- Lincoln Ritter, with Maneesh Agarwala and David Salesin.
- Suporn Pongnumkul, with Zoran Popović.
- Doug Zongker, with David Salesin, currently at Google.

***CSE Ph.D. committees:***

- |                  |                  |
|------------------|------------------|
| • Brett Allen    | • Craig Kaplan   |
| • Pravin Bhat    | • Ian Simon      |
| • Steve Capell   | • Jonathan Shade |
| • Yung-Yu Chuang | • Qi Shan        |
| • Alex Colburn   | • Daniel Wood    |
| • Juliet Fiss    | • Doug Zongker   |
| • Dan Goldman    | • Li Zhang       |
| • Ankit Gupta    | • Colin Zheng    |

***Graduate School Representative committees:***

- |   |   |
|---|---|
| • Yu-Ting Chen (Music)                    | • Flaviano Giorgini (Genetics)            |
| • Carrie Cornish (Electrical Engineering) | • Victor Holtcamp (Drama)                 |
|   | • Nathan Neihart (Electrical Engineering) |

**Service**

***Co-founder and co-editor-in-chief:***

Foundations and Trends in Computer Graphics and Vision (2003 – present).

***Editorial board:***

Computers and Graphics 1998-2003

***Conference Chair***

General Chair for 3D Vision 2013 in Seattle

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***Program committees:***

SIGGRAPH 2003, 2004, 2006, 2007, 2009, 2010, and 2013  
ICCP 2009  
2003 Eurographics Symposium on Geometry Processing  
CVPR 2001, 2003, and 2004  
3DPVT 2004

***Reviewer***

ACM SIGGRAPH  
ACM SIGGRAPH Asia  
ACM SIGGRAPH Symposium on Interactive 3D Graphics  
ACM Solid Modeling  
ACM Transactions on Graphics  
Computers and Graphics  
Eurographics  
Graphics Interface  
High Performance Computer Graphics, Multimedia and Visualization  
IEEE Computer Graphics and Applications  
IEEE Computer Vision and Pattern Recognition  
IEEE Visualization