

**Vladlen Koltun**  
Curriculum Vitae

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Born Nov 1980

EDUCATION

- 2002 Ph.D., Computer Science, Tel Aviv University, with distinction  
Thesis: "Arrangements in Four Dimensions and Related Structures"  
Supervisor: Micha Sharir
- 2000 B.Sc., Computer Science, Tel Aviv University, Magna Cum Laude

EXPERIENCE

- 1/2015 – present Intel Labs, Santa Clara, CA  
*Principal Researcher*  
*Director, Visual Computing Lab*  
Established a new lab devoted to basic research.
- 6/2013 – 12/2014 Adobe Research, San Francisco, CA  
*Senior Research Scientist*  
Conducted research in visual computing. Primary focus on three-dimensional reconstruction. Additional results in visual perception and motor control.
- 7/2005 – 12/2013 Computer Science Department, Stanford, CA  
*Assistant Professor*  
Joined the faculty as a theoretician. Theoretical research recognized with the National Science Foundation CAREER Award (2006) and the Sloan Research Fellowship (2007). Switched to research in visual computing in 2007. Built a new research group. Raised funding, supervised PhD students and postdoctoral researchers, mentored more than 20 undergraduate and master's researchers, taught 16 courses. Two PhD students are now professors at top-10 computer science departments, UC Berkeley (Sergey Levine) and UT Austin (Philipp Krähenbühl). Work on data-driven 3D modeling was licensed and formed the basis of a widely-used character creation application (Mixamo Fuse, subsequently Adobe Fuse). Work on dense random fields was recognized with the highest award at NIPS, the leading machine learning conference. Was chosen as the "most influential Stanford academic advisor" by all three undergraduate researchers under mentorship who received the Terman Award for outstanding academic achievement.
- 8–12/2003 Mathematical Sciences Research Institute, Berkeley, CA  
*Research Fellow*  
Conducted research in theoretical computer science.
- 9/2002 – 6/2005 University of California, Berkeley, CA  
*Postdoctoral Researcher*  
Conducted research in theoretical computer science.  
Supervisor: Christos Papadimitriou

6/1997 – 5/1999 Shells Interactive, Israel  
*Senior Software Developer*

#### HONORS AND AWARDS

- Sloan Research Fellowship, Alfred P. Sloan Foundation, 2007
- NSF CAREER Award, National Science Foundation, 2006
- Presidential Grant for Junior Faculty, Stanford University, 2006
- David Morgenthaler II Faculty Scholarship, Stanford University, 2005
- Rothschild Postdoctoral Fellowship, 2002. Awarded annually to 12 graduate students from all scientific disciplines in Israel.
- Deutsch Prize, Tel Aviv University, 2001. Awarded annually to one graduate student “whose research was singled out as outstanding”.
- Wolf Foundation Fellowship, 2001. Awarded annually to selected graduate students from all scientific disciplines in Israel.

#### PUBLICATION AWARDS AND DISTINCTIONS

- *“Photographic Image Synthesis with Cascaded Refinement Networks”*  
International Conference on Computer Vision (ICCV), 2017.  
Selected for full oral presentation at the conference. Selection rate 2.1%. (45 papers selected out of 2143 submissions.)
- *“Playing for Benchmarks”*  
International Conference on Computer Vision (ICCV), 2017.  
Selected for a spotlight oral presentation at the conference. Selection rate 4.7%. (101 papers selected for spotlight oral or full oral out of 2143 submissions.)
- *“Learning to Act by Predicting the Future”*  
International Conference on Learning Representations (ICLR), 2017.  
Selected for full oral presentation at the conference. Selection rate 3.0%. (15 papers selected out of 507 submissions.)
- *“Fast Global Registration”*  
European Conference on Computer Vision (ECCV), 2016.  
Selected for full oral presentation at the conference. Selection rate 1.8%. (28 papers selected out of 1561 submissions.)
- *“Full Flow: Optical Flow Estimation by Global Optimization over Regular Grids”*  
Computer Vision and Pattern Recognition (CVPR), 2016.  
Selected for full oral presentation at the conference. Selection rate 3.9%. (83 papers selected out of 2145 submissions.)
- *“Feature Space Optimization for Semantic Video Segmentation”*  
Computer Vision and Pattern Recognition (CVPR), 2016.  
Selected for full oral presentation at the conference. Selection rate 3.9%. (83 papers selected out of 2145 submissions.)

- *"Robust Nonrigid Registration by Convex Optimization"*  
International Conference on Computer Vision (ICCV), 2015.  
Selected for full oral presentation at the conference. Selection rate 3.3%. (56 papers selected out of 1698 submissions.)
- *"Geodesic Object Proposals"*  
European Conference on Computer Vision (ECCV), 2014.  
Selected for full oral presentation at the conference. Selection rate 2.8%. (38 papers selected out of 1359 submissions.)
- *"Elastic Fragments for Dense Scene Reconstruction"*  
International Conference on Computer Vision (ICCV), 2013.  
Selected for full oral presentation at the conference. Selection rate 2.5%. (41 papers selected out of 1629 submissions.)
- *"Efficient Inference in Fully Connected CRFs with Gaussian Edge Potentials"*  
Advances in Neural Information Processing Systems (NIPS), 2011.  
Outstanding Student Paper Award. Highest award at the conference. (There was no separate Best Paper award at the time.) 3 papers selected out of 1400 submissions to the conference.
- *"Metropolis Procedural Modeling"*  
ACM Transactions on Graphics, 30(2), 2011.  
Featured on the cover of ACM Transactions on Graphics.
- *"Computer-Generated Residential Building Layouts"*  
ACM Transactions on Graphics, 29(6), 2010.  
Featured on the title page of ACM Transactions on Graphics.
- *"On Overlays and Minimization Diagrams"*  
22nd Symposium on Computational Geometry (SoCG), 2006.  
Selected for special issue of the journal Discrete and Computational Geometry devoted to the conference. 6 papers selected out of 138 submissions to the conference.
- *"On the Union of  $k$ -Round Objects in Three and Four Dimensions"*  
20th ACM Symposium on Computational Geometry (SoCG), 2004.  
Selected for special issue of the journal Discrete and Computational Geometry devoted to the conference. 8 papers selected out of 147 submissions to the conference.
- *"Polyhedral Voronoi Diagrams of Polyhedra in Three Dimensions"*  
18th ACM Symposium on Computational Geometry (SoCG), 2002.  
Selected for a special issue of the journal Discrete and Computational Geometry devoted to the conference. 7 papers selected out of 104 submissions to the conference.
- *"Almost Tight Upper Bounds for Vertical Decompositions in Four Dimensions"*  
42nd IEEE Symposium on Foundations of Computer Science (FOCS), 2001.  
Machtey Award for best student-authored paper. Highest award at the conference. (There was no separate Best Paper award at the time.) 2 papers selected out of 214 submissions to the conference.
- *"Segment Intersection Searching Problems in General Settings"*  
17th ACM Symposium on Computational Geometry (SoCG), 2001.  
Selected for special issue of the journal Discrete and Computational Geometry devoted to the conference. 8 papers selected out of 106 submissions to the conference.

## KEYNOTES, DISTINGUISHED LECTURES, SELECTED INVITED TALKS

Not including departmental colloquia, regional meetings, research seminars, etc. Not including talks prior to 2010.

- Invited speaker, *Scenes from Video III*. Lake Garda, Italy, 2017.
- Invited speaker, *ICCV Workshop: Beyond Supervised Learning*. Venice, Italy, 2017.
- Invited speaker, *ICCV Workshop: Joint COCO and Places Challenge*. Venice, Italy, 2017.
- Invited speaker, *ICCV Workshop: Role of Simulation in Computer Vision*. Venice, Italy, 2017.
- Invited speaker, *ICCV Workshop: Multiview Relationships in 3D Data*. Venice, Italy, 2017.
- Invited speaker, *CVPR Workshop: Bridges to 3D*. Honolulu, HI, 2017.
- Keynote speaker, *International Computer Vision Summer School*. Sicily, Italy, 2017.
- Invited speaker, *ECCV Workshop: Geometry Meets Deep Learning*. Amsterdam, The Netherlands, 2016.
- Invited speaker, *ECCV Workshop: Virtual/Augmented Reality for Visual Artificial Intelligence*. Amsterdam, The Netherlands, 2016.
- Invited speaker, *Scenes from Video II*. Colchagua Valley, Chile, 2015.
- Invited speaker, *ICCV Workshop: Inverse Rendering*. Santiago, Chile, 2015.
- Distinguished speaker, *Center for Vision and Virtual Reality, UNC. Center opening*. Chapel Hill, NC, 2015.
- Invited speaker, *CVPR Workshop: 3D from a Single Image*. Boston, MA, 2015.
- Invited speaker, *ECCV Workshop: Reconstruction Meets Recognition Challenge*. Zürich, Switzerland, 2014.
- Keynote speaker, *International Conference on 3D Vision (3DV)*. Seattle, WA, 2013.
- Keynote speaker, *Computational Visual Media Conference (CVM)*. Beijing, China, 2012.

## SELECTED PROFESSIONAL ACTIVITIES

Not including program committee memberships, area chair roles, etc.

- Editorial board, *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*, 2016 – present
- Program Chair, *Symposium on Computer Animation (SCA)*, 2014
- Guest Editor, *SIAM Journal on Computing*, Special Section on ACM Symposium on Theory of Computing, 2009
- Guest Editor, *SIAM Journal on Computing*, Special Section on Foundations of Computer Science, 2007
- Editorial board, *Theory of Computing*, 2005 – 2014

## ADVISING

### Research Scientists

- Dr. Stephan Richter. Intel Labs. Starting in early 2018.

- Dr. Qifeng Chen. Intel Labs. 2017 – present.
- Dr. Katelyn Gao. Intel Labs. 2017 – present.
- Dr. René Ranftl. Intel Labs. 2017 – present.
- Dr. Alexey Dosovitskiy. Intel Labs. 2017 – present.
- Dr. Philipp Krähenbühl. Intel Labs. 2016 – present. (Part time.)
- Dr. Jaesik Park. Intel Labs. 2015 – present.
- Dr. Jia Xu. Intel Labs. 2015 – 2017. (Next: Returning to China to assume a leadership position in an industrial research lab.)
- Dr. Vibhav Vineet. Intel Labs. 2015 – 2017. (Next: Returned to England for family reasons.)
- Dr. Qian-Yi Zhou. Intel Labs. 2015 – 2017. (Next: Co-founded a start-up with experienced entrepreneurs.)

#### Postdoctoral Researchers

- Dr. Gernot Riegler. Intel Labs. Starting in Jan 2018.
- Dr. Gil Ben-Artzi. Intel Labs. 2017 – present.
- Dr. Zhuwen Li. Intel Labs. 2017 – present.
- Dr. Alexey Dosovitskiy. Intel Labs. 2016.
- Dr. Arno Knapitsch. Intel Labs. 2015 – present.
- Dr. René Ranftl. Intel Labs. 2015 – 2016.
- Dr. Vibhav Vineet. Stanford University. 2014 – 2015.
- Dr. Qian-Yi Zhou. Stanford University. 2012 – 2015.
- Dr. Martin Bokeloh. Stanford University. 2011 – 2013.
- Dr. Jack Wang. Stanford University. 2010 – 2013.
- Dr. Evangelos Kalogerakis. Stanford University. 2010 – 2012.
- Dr. Paul Merrell. Stanford University. 2009 – 2011.

#### Doctoral Students

- Qifeng Chen, Computer Science, Stanford University. 2013 – 2017. (After PhD: Research Scientist at Intel Labs.)
- Sungjoon Choi, Electrical Engineering, Stanford University. 2012 – 2015. (After PhD: Google.)
- Philipp Krähenbühl, Computer Science, Stanford University. 2009 – 2014. (After PhD: Postdoc at UC Berkeley, then faculty at UT Austin.)
- Sergey Levine, Computer Science, Stanford University. 2009 – 2014. (After PhD: Postdoc at UC Berkeley, then faculty at UC Berkeley.)
- Siddhartha Chaudhuri, Computer Science, Stanford University. 2005 – 2011. (After PhD: Postdoc at Princeton, then lecturer at Cornell.)

## Doctoral Interns

- Matthias Vestner. Intel Labs, visiting from TU München. October 2017 – April 2018
- Nikolay Savinov. Intel Labs, visiting from ETH Zürich. June-December 2017
- Maxim Tatarchenko. Intel Labs, visiting from Freiburg. May-November 2017
- Sergey Zagoruyko. Intel Labs, visiting from ParisTech. September-December 2017
- Xiaojuan Qi. Intel Labs, visiting from CUHK. May-November 2017
- François Germain. Intel Labs, visiting from Stanford. June 2017 – January 2018
- Matthias Müller. Intel Labs, visiting from KAUST. June 2017 – January 2018
- Felipe Codevilla. Intel Labs, visiting from Barcelona. June-December 2017
- Chen Chen. Intel Labs, visiting from UIUC. June-December 2017
- Stephan Richter. Intel Labs, visiting from TU Darmstadt. May-November 2015. Second internship November 2016 – May 2017. (After PhD: Intel Labs.)
- Zeeshan Hayder. Intel Labs, visiting from Australian National University. November 2016 – May 2017.
- Qifeng Chen. Intel Labs, visiting from Stanford. September 2016 – June 2017. (After PhD: Intel Labs.)
- Katelyn Gao. Intel Labs, visiting from Stanford. June-December 2016. (After PhD: Intel Labs.)
- Sohil Atul Shah. Intel Labs, visiting from University of Maryland. May-December 2016.
- Marc Khoury. Intel Labs, visiting from UC Berkeley. May-December 2016.
- Mohammad Haris Baig. Intel Labs, visiting from Dartmouth. June-December 2015. (After PhD: Apple.)
- Linguang Zhang. Intel Labs, visiting from Princeton. June-September 2015.
- Jakob Engel. Intel Labs, visiting from TU München. May-November 2015. (After PhD: Oculus Research.)
- Abhijit Kundu. Intel Labs, visiting from Georgia Tech. May-November 2015.
- Fisher Yu. Intel Labs, visiting from Princeton. February-November 2015. (After PhD: Postdoc at UC Berkeley.)
- Igor Mordatch. Stanford, visiting from University of Washington. September 2012 – March 2013. (After PhD: Postdoc at UC Berkeley, then faculty at CMU.)

## PUBLICATIONS

Conference papers that also appeared in journals are listed only as journal papers. For publications in computational geometry (prior to 2009), the author list is in alphabetical order.

### Refereed conference proceedings (excluding papers that also appeared in journals):

1. Mohammad Haris Baig, Vladlen Koltun, and Lorenzo Torresani, “Learning to Inpaint for Image Compression,” *Advances in Neural Information Processing Systems (NIPS)*, Long Beach, CA, December

2017.

2. Alexey Dosovitskiy, German Ros, Felipe Codevilla, Antonio Lopez, and Vladlen Koltun, "CARLA: An Open Urban Driving Simulator," *Conference on Robot Learning (CoRL)*, Mountain View, CA, November 2017.
3. Qifeng Chen and Vladlen Koltun, "Photographic Image Synthesis with Cascaded Refinement Networks," *International Conference on Computer Vision (ICCV)*, Venice, Italy, October 2017.
4. Stephan R. Richter, Zeeshan Hayder, and Vladlen Koltun, "Playing for Benchmarks," *International Conference on Computer Vision (ICCV)*, Venice, Italy, October 2017.
5. Qifeng Chen, Jia Xu, and Vladlen Koltun, "Fast Image Processing with Fully-Convolutional Networks," *International Conference on Computer Vision (ICCV)*, Venice, Italy, October 2017.
6. Jaesik Park, Qian-Yi Zhou, and Vladlen Koltun, "Colored Point Cloud Registration Revisited," *International Conference on Computer Vision (ICCV)*, Venice, Italy, October 2017.
7. Marc Khoury, Qian-Yi Zhou, and Vladlen Koltun, "Learning Compact Geometric Features," *International Conference on Computer Vision (ICCV)*, Venice, Italy, October 2017.
8. Fisher Yu, Vladlen Koltun, and Thomas Funkhouser, "Dilated Residual Networks," *Computer Vision and Pattern Recognition (CVPR)*, Honolulu, HI, July 2017.
9. Jia Xu, René Ranftl, and Vladlen Koltun, "Accurate Optical Flow via Direct Cost Volume Processing," *Computer Vision and Pattern Recognition (CVPR)*, Honolulu, HI, July 2017.
10. Alexey Dosovitskiy and Vladlen Koltun, "Learning to Act by Predicting the Future," *International Conference on Learning Representations (ICLR)*, Toulon, France, April 2017.
11. Qian-Yi Zhou, Jaesik Park, and Vladlen Koltun, "Fast Global Registration," *European Conference on Computer Vision (ECCV)*, Amsterdam, The Netherlands, October 2016.
12. Stephan Richter, Vibhav Vineet, Stefan Roth, and Vladlen Koltun, "Playing for Data: Ground Truth from Computer Games," *European Conference on Computer Vision (ECCV)*, Amsterdam, The Netherlands, October 2016.
13. Qifeng Chen and Vladlen Koltun, "Full Flow: Optical Flow Estimation by Global Optimization over Regular Grids," *Computer Vision and Pattern Recognition (CVPR)*, Las Vegas, NV, June 2016.
14. Abhijit Kundu, Vibhav Vineet, and Vladlen Koltun, "Feature Space Optimization for Semantic Video Segmentation," *Computer Vision and Pattern Recognition (CVPR)*, Las Vegas, NV, June 2016.
15. René Ranftl, Vibhav Vineet, Qifeng Chen, and Vladlen Koltun, "Dense Monocular Depth Estimation in Complex Dynamic Scenes," *Computer Vision and Pattern Recognition (CVPR)*, Las Vegas, NV, June 2016.
16. Fisher Yu and Vladlen Koltun, "Multi-Scale Context Aggregation by Dilated Convolutions," *International Conference on Learning Representations (ICLR)*, San Juan, PR, May 2016.
17. Qifeng Chen and Vladlen Koltun, "Robust Nonrigid Registration by Convex Optimization," *International Conference on Computer Vision (ICCV)*, Santiago, Chile, December 2015.
18. Philipp Krähenbühl and Vladlen Koltun, "Learning to Propose Objects," *Computer Vision and Pattern*

*Recognition (CVPR)*, Boston, MA, June 2015.

19. Sungjoon Choi, Qian-Yi Zhou, and Vladlen Koltun, "Robust Reconstruction of Indoor Scenes," *Computer Vision and Pattern Recognition (CVPR)*, Boston, MA, June 2015.
20. Qian-Yi Zhou and Vladlen Koltun, "Depth Camera Tracking with Contour Cues," *Computer Vision and Pattern Recognition (CVPR)*, Boston, MA, June 2015.
21. Philipp Krähenbühl and Vladlen Koltun, "Geodesic Object Proposals," *European Conference on Computer Vision (ECCV)*, Zürich, Switzerland, September 2014.
22. Sergey Levine and Vladlen Koltun, "Learning Complex Neural Network Policies with Trajectory Optimization," *International Conference on Machine Learning (ICML)*, Beijing, China, June 2014.
23. Qifeng Chen and Vladlen Koltun, "Fast MRF Optimization with Application to Depth Reconstruction," *Computer Vision and Pattern Recognition (CVPR)*, Columbus, OH, June 2014.
24. Qian-Yi Zhou and Vladlen Koltun, "Simultaneous Localization and Calibration: Self-Calibration of Consumer Depth Cameras," *Computer Vision and Pattern Recognition (CVPR)*, Columbus, OH, June 2014.
25. Sergey Levine and Vladlen Koltun, "Variational Guided Policy Search," *Advances in Neural Information Processing Systems (NIPS)*, Lake Tahoe, NV, December 2013.
26. Qifeng Chen and Vladlen Koltun, "A Simple Model for Intrinsic Image Decomposition with Depth Cues," *International Conference on Computer Vision (ICCV)*, Sydney, Australia, December 2013.
27. Qian-Yi Zhou, Stephen Miller, and Vladlen Koltun, "Elastic Fragments for Dense Scene Reconstruction," *International Conference on Computer Vision (ICCV)*, Sydney, Australia, December 2013.
28. Philipp Krähenbühl and Vladlen Koltun, "Parameter Learning and Convergent Inference for Dense Random Fields," *International Conference on Machine Learning (ICML)*, Atlanta, GA, June 2013.
29. Sergey Levine and Vladlen Koltun, "Guided Policy Search," *International Conference on Machine Learning (ICML)*, Atlanta, GA, June 2013.
30. Philipp Krähenbühl and Vladlen Koltun, "Efficient Nonlocal Regularization for Optical Flow," *European Conference on Computer Vision (ECCV)*, Florence, Italy, October 2012.
31. Sergey Levine and Vladlen Koltun, "Continuous Inverse Optimal Control with Locally Optimal Examples," *International Conference on Machine Learning (ICML)*, Edinburgh, Scotland, June 2012.
32. Young Min Kim, Jennifer Dolson, Mike Sokolsky, Vladlen Koltun, and Sebastian Thrun, "Interactive Acquisition of Residential Floor Plans," *International Conference on Robotics and Automation (ICRA)*, St. Paul, MN, May 2012.
33. Philipp Krähenbühl and Vladlen Koltun, "Efficient Inference in Fully Connected CRFs with Gaussian Edge Potentials," *Advances in Neural Information Processing Systems (NIPS)*, Granada, Spain, December 2011.
34. Sergey Levine, Zoran Popovic, and Vladlen Koltun, "Nonlinear Inverse Reinforcement Learning with Gaussian Processes," *Advances in Neural Information Processing Systems (NIPS)*, Granada, Spain, December 2011.



35. Sergey Levine, Zoran Popovic and Vladlen Koltun, "Feature Construction for Inverse Reinforcement Learning," *Advances in Neural Information Processing Systems (NIPS)*, Vancouver, Canada, December 2010.
36. Sarel Har-Peled and Vladlen Koltun, "Separability with Outliers," *16th International Symposium on Algorithms and Computation*, Sanya, China, December 2005.
37. Jason Hartline and Vladlen Koltun, "Near-Optimal Pricing in Near-Linear Time," *9th Workshop on Algorithms and Data Structures*, Waterloo, Canada, August 2005.
38. Vladlen Koltun, "Pianos are not Flat: Rigid Motion Planning in Three Dimensions," *16th ACM-SIAM Symposium on Discrete Algorithms*, Vancouver, BC, January 2005.
39. Quanfu Fan, Alon Efrat, Vladlen Koltun, Shankar Krishnan, and Suresh Venkatasubramanian, "Hardware-Assisted Natural Neighbor Interpolation," *7th Workshop on Algorithm Engineering and Experiments*, Vancouver, BC, January 2005.
40. Sarel Har-Peled, Vladlen Koltun, Dezheng Song, and Ken Goldberg, "Efficient Algorithms for Shared Camera Control," *19th ACM Symposium on Computational Geometry*, San Diego, CA, June 2003.
41. Vladlen Koltun and Micha Sharir, "On the Overlay of Envelopes in Four Dimensions," *13th ACM-SIAM Symposium on Discrete Algorithms*, San Francisco, CA, January 2002.
42. Vladlen Koltun, Yiorgos Chrysanthou, and Daniel Cohen-Or, "Hardware-Accelerated From-region Visibility Using a Dual Ray Space," *12th Eurographics Workshop on Rendering*, London, England, June 2001.
43. Vladlen Koltun, Yiorgos Chrysanthou, and Daniel Cohen-Or, "Virtual Occluders: an Efficient Intermediate PVS Representation," *11th Eurographics Workshop on Rendering*, Brno, Czech Republic, June 2000.

Refereed journals:

44. Sohil Atul Shah and Vladlen Koltun, "Robust Continuous Clustering," *Proceedings of the National Academy of Sciences (PNAS)*, 114(37), 2017.
45. Arno Knapitsch, Jaesik Park, Qian-Yi Zhou, and Vladlen Koltun, "Tanks and Temples: Benchmarking Large-Scale Scene Reconstruction," *ACM Transactions on Graphics*, 36(4), 2017. Proceedings of ACM SIGGRAPH.
46. Jakob Engel, Vladlen Koltun, and Daniel Cremers, "Direct Sparse Odometry," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 39, 2017.
47. Qi-Xing Huang, Hai Wang, and Vladlen Koltun, "Single-View Reconstruction via Joint Analysis of Image and Shape Collections," *ACM Transactions on Graphics*, 34(4), 2015. Proceedings of ACM SIGGRAPH.
48. Qian-Yi Zhou and Vladlen Koltun, "Color Map Optimization for 3D Reconstruction with Consumer Depth Cameras," *ACM Transactions on Graphics*, 33(4), 2014. Proceedings of ACM SIGGRAPH.
49. Igor Mordatch, Jack Wang, Emanuel Todorov, and Vladlen Koltun, "Animating Human Lower Limbs Using Contact-Invariant Optimization," *ACM Transactions on Graphics*, 32(6), 2013. Proceedings of ACM SIGGRAPH Asia.

50. Qian-Yi Zhou and Vladlen Koltun, "Dense Scene Reconstruction with Points of Interest," *ACM Transactions on Graphics*, 32(4), 2013. Proceedings of ACM SIGGRAPH.
51. Jack Wang, Samuel Hamner, Scott Delp, and Vladlen Koltun, "Optimizing Locomotion Controllers Using Biologically-Based Actuators and Objectives," *ACM Transactions on Graphics*, 31(4), 2012. Proceedings of ACM SIGGRAPH.
52. Evangelos Kalogerakis, Siddhartha Chaudhuri, Daphne Koller, and Vladlen Koltun, "A Probabilistic Model for Component-Based Shape Synthesis," *ACM Transactions on Graphics*, 31(4), 2012. Proceedings of ACM SIGGRAPH.
53. Martin Bokeloh, Michael Wand, Hans-Peter Seidel, and Vladlen Koltun, "An Algebraic Model for Parameterized Shape Editing," *ACM Transactions on Graphics*, 31(4), 2012. Proceedings of ACM SIGGRAPH.
54. Sergey Levine, Jack Wang, Alexis Haraux, Zoran Popovic, and Vladlen Koltun, "Continuous Character Control with Low Dimensional Embeddings," *ACM Transactions on Graphics*, 31(4), 2012. Proceedings of ACM SIGGRAPH.
55. Martin Bokeloh, Michael Wand, Vladlen Koltun, and Hans-Peter Seidel, "Pattern-Aware Shape Deformation Using Sliding Dockers," *ACM Transactions on Graphics*, 30(6), 2011. Proceedings of ACM SIGGRAPH Asia.
56. Qi-Xing Huang, Vladlen Koltun, and Leonidas Guibas, "Joint Shape Segmentation with Linear Programming," *ACM Transactions on Graphics*, 30(6), 2011. Proceedings of ACM SIGGRAPH Asia.
57. Paul Merrell, Eric Schkufza, Zeyang Li, Maneesh Agrawala, and Vladlen Koltun, "Interactive Furniture Layout Using Interior Design Guidelines," *ACM Transactions on Graphics*, 30(4), 2011. Proceedings of ACM SIGGRAPH.
58. Siddhartha Chaudhuri, Evangelos Kalogerakis, Leonidas Guibas, and Vladlen Koltun, "Probabilistic Reasoning for Assembly-Based 3D Modeling," *ACM Transactions on Graphics*, 30(4), 2011. Proceedings of ACM SIGGRAPH.
59. Sergey Levine, Yongjoon Lee, Vladlen Koltun, and Zoran Popovic, "Space-Time Planning with Parameterized Locomotion Controllers," *ACM Transactions on Graphics*, 30(3), 2011. Presented at ACM SIGGRAPH.
60. Jerry O. Talton, Yu Lou, Steve Lesser, Jared Duke, Radomír Měch, and Vladlen Koltun, "Metropolis Procedural Modeling," *ACM Transactions on Graphics*, 30(2), 2011. Presented at ACM SIGGRAPH.
61. Siddhartha Chaudhuri and Vladlen Koltun, "Data-Driven Suggestions for Creativity Support in 3D Modeling," *ACM Transactions on Graphics*, 29(6), 2010. Proceedings of ACM SIGGRAPH Asia.
62. Paul Merrell, Eric Schkufza, and Vladlen Koltun, "Computer-Generated Residential Building Layouts," *ACM Transactions on Graphics*, 29(6), 2010. Proceedings of ACM SIGGRAPH Asia.
63. Sergey Levine, Philipp Krähenbühl, Sebastian Thrun, and Vladlen Koltun, "Gesture Controllers," *ACM Transactions on Graphics*, 29(4), 2010. Proceedings of ACM SIGGRAPH.
64. Sergey Levine, Christian Theobalt, and Vladlen Koltun, "Real-Time Prosody-Driven Synthesis of Body

Language,” *ACM Transactions on Graphics*, 28(5), 2009. Proceedings of ACM SIGGRAPH Asia.

65. Jerry O. Talton, Daniel Gibson, Lingfeng Yang, Pat Hanrahan, and Vladlen Koltun, “Exploratory Modeling with Collaborative Design Spaces,” *ACM Transactions on Graphics*, 28(5), 2009. Proceedings of ACM SIGGRAPH Asia.
66. Siddhartha Chaudhuri and Vladlen Koltun, “Smoothed Analysis of Probabilistic Roadmaps,” *Computational Geometry*, 42(8): 731–747, 2009.
67. Vladlen Koltun and Micha Sharir, “On Overlays and Minimization Diagrams,” *Discrete and Computational Geometry*, 41(3): 385–397, 2009. Special issue on the 22nd Symposium on Computational Geometry.
68. Vladlen Koltun and Christos H. Papadimitriou, “Approximately Dominating Representatives.” *Theoretical Computer Science*, 371, 148–154, 2007. Special issue on the 10th International Conference on Database Theory.
69. Boris Aronov, Alon Efrat, Vladlen Koltun, and Micha Sharir, “On the Union of  $\kappa$ -Round Objects in Three and Four Dimensions.” *Discrete and Computational Geometry*, 36, 511–526, 2006. Special issue on the 20th ACM Symposium on Computational Geometry.
70. Pankaj K. Agarwal, Boris Aronov, and Vladlen Koltun, “Efficient Algorithms for Bichromatic Separability.” *ACM Transactions on Algorithms*, 2, 209–227, 2006. Also in 15th ACM-SIAM Symposium on Discrete Algorithms.
71. Pankaj K. Agarwal, Boris Aronov, Vladlen Koltun, and Micha Sharir, “On Lines Avoiding Unit Balls in Three Dimensions.” *Discrete and Computational Geometry*, 34, 231–250, 2005. Also in 20th Symposium on Computational Geometry.
72. Vladlen Koltun and Micha Sharir, “Curve-sensitive Cuttings,” *SIAM Journal on Computing*, 34(4): 863–878, 2005. Also in 19th Symposium on Computational Geometry.
73. Boris Aronov, Vladlen Koltun, and Micha Sharir, “Cutting Triangular Cycles of Lines in Space,” *Discrete and Computational Geometry*, 34(2): 231–250, 2005. Also in 35th ACM Symposium on Theory of Computing.
74. Boris Aronov, Vladlen Koltun, and Micha Sharir, “Incidences Between Points and Circles in Three Dimensions,” *Discrete and Computational Geometry*, 33(2): 185–206, 2005. Also in 18th Symposium on Computational Geometry.
75. Vladlen Koltun and Carola Wenk, “Matching Polyhedral Terrains Using Overlays of Envelopes,” *Algorithmica*, 41(3): 159–183, 2005.
76. Vladlen Koltun, “Almost Tight Upper Bounds for Vertical Decompositions in Four Dimensions,” *Journal of the ACM*, 51, 699–730, 2004. Also in 42nd IEEE Symposium on Foundations of Computer Science.
77. Vladlen Koltun, “Sharp Bounds for Vertical Decompositions of Linear Arrangements in Four Dimensions,” *Discrete and Computational Geometry*, 31, 435–460, 2004.
78. Vladlen Koltun and Micha Sharir, “Polyhedral Voronoi Diagrams of Polyhedra in Three Dimensions,” *Discrete and Computational Geometry*, 31, 83–124. Special issue on the 18th ACM Symposium on Computational Geometry.

79. Vladlen Koltun, "Ready, Set, Go! - The Voronoi Diagram of Moving Points that Start from a Line," *Information Processing Letters*, 89, 233–235, 2004.
80. Vladlen Koltun, "Segment Intersection Searching Problems in General Settings," *Discrete and Computational Geometry*, 30, 25–44. Special issue on the 17th ACM Symposium on Computational Geometry.
81. Vladlen Koltun and Micha Sharir, "The Partition Technique for Overlays of Envelopes," *SIAM Journal on Computing*, 32, 841–863, 2003. Also in 43rd IEEE Symposium on Foundations of Computer Science.
82. Vladlen Koltun and Micha Sharir, "3-Dimensional Euclidean Voronoi Diagrams of Lines with a Fixed Number of Orientations," *SIAM Journal on Computing*, 32, 616–642, 2003. Also in 18th Symposium on Computational Geometry.