

**Olga Karpenko**  
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- Research Interests**      Computer Graphics, Human-Computer Interaction, Visual Perception, Computer Vision, Machine Learning
- Education**      **Brown University**      Providence, RI  
Ph.D. in Computer Science, May 2007  
Sc.M. in Computer Science, May 2001
- Moscow State University**      Moscow, Russia  
Diploma (B.Sc) in Applied Mathematics, May 1998
- Work**      **Brown University, Department of Computer Science**      Providence, RI
- **Research Assistant**  
Worked on interactively generating 3D models from complex contour drawings of free-form shapes.
  - **Teaching Assistant**  
Introduction to Scientific Computing and Problem Solving with Matlab, Spring 2006.  
Taught several lectures, prepared assignments and conducted labs.
  - **Teaching Assistant**  
Interactive Computer Graphics, Spring 2005.  
Responsible for holding paper reading sections, help sessions and grading assignments.
  - **Teaching Assistant**  
Applied Theory of Computation, Spring 2004.  
Helped to prepare assignments and graded student homeworks.
  - **Teaching Assistant**  
Introduction to Artificial Intelligence, Spring 2003.  
Developed support code for programming assignments and graded assignments.
- Mitsubishi Electric Research Laboratories**      Cambridge, MA
- **Research Intern**, Summer 2001.  
Created a system for free-form shape modeling; fitted variational implicit surface based on user-input stroke and epipolar geometry constraints.
- Moscow State University**      Moscow, Russia
- **Teaching Assistant**  
Introduction to Computer Graphics, Spring 1999.  
Responsible for developing programming assignments, conducting help sessions, mentoring students, grading and course web site support.
- Keldysh Institute of Applied Mathematics, RAS**      Moscow, Russia
- **Research Assistant**, May 1997 - May 1998.  
Helped in implementing cloth visualization software and testing it on different types of cloth.

- Projects**
- SmoothSketch: 3D free-form shapes from complex sketches
  - Epipolar methods for multi-view sketching of generalized cylinders
  - A system for free-form sketching with variational implicit surfaces
  - Mesh morphing using variational implicit functions
  - Animation of plant development (using L-systems to create plant models)
  - Client-side profile language and interpreter (designing a profile language which can be used to continuously query a web site's data and the changes in that data)
- Skills**
- Programming Languages: Java, C/C++, Pascal, Lisp, SQL
  - Graphics Libraries: Java3D, OpenGL
  - Computing Tools: Matlab, Mathematica
  - Operating Systems: Unix, Linux, Windows XP
- Publications**
1. Olga Karpenko, "Algorithms and Interfaces for Sketch-based 3D Modeling", Ph.D. dissertation, Brown University, May 2007.
  2. Olga Karpenko, and John F. Hughes. "SmoothSketch: 3D free-form shapes from complex sketches," ACM Transactions on Graphics (Proceedings of SIGGRAPH 2006).
  3. Olga Karpenko, and John F. Hughes. "Implementation Sketch for SmoothSketch: 3D Free-Form Shapes From Complex Sketches," ACM SIGGRAPH 2006 Sketches.
  4. Olga Karpenko, and John F. Hughes. "Inferring 3D Free-Form Shapes from Contour Drawings," ACM SIGGRAPH 2005 Sketches.
  5. Tomer Moscovich, and Olga Karpenko. "Multi-Fingered Interface for Sculpting of Generalized Cylinders," Symposium on Interactive 3D Graphics and Games (I3D) 2005 Posters.
  6. Olga Karpenko, John F. Hughes, and Ramesh Raskar, "Epipolar methods for multi-view sketching," Eurographics Workshop on Sketch-Based Interfaces 2004.
  7. Olga Karpenko, John F. Hughes, and Ramesh Raskar, "Free-form sketching with variational implicit surfaces," Eurographics 2002.
  8. V. L. Volevich, E. A. Kopylov, A. B. Khodulev, and Olga Karpenko, "An Approach to Cloth Synthesis and Visualization," The Seventh International Conference on Computer Graphics and Scientific Visualization Graphicon 1997.
- Mentoring**
- Yotam Gingold, Summer 2002  
Rachel Gold and Jean Tsong , Spring 2006
- Honors**
- Pixar Fellowship, Fall 2006  
Brown Fellowship, 1999-2000  
Diploma with Honors, Moscow State University, May 1998  
Moscow Mayor's fellowship 1996-1997
- Service**
- Reviewer for Computer Graphics Forum, 2003  
Reviewer for IEEE CG&A Issue on Sketching, 2006  
Reviewer for ACM Transactions on Graphics, 2006  
Reviewer for ACM Transactions on Graphics, 2007  
International Program Committee, Pacific Graphics, 2007  
Reviewer for Eurographics, 2008