

1. Name, position, academic departments

GABRIEL TAUBIN

Associate Professor of Engineering and Computer Science
Division of Engineering

2. Education

1. Ph.D. Electrical Engineering, Brown University, Providence, RI, May 1991. Thesis title: Recognition and Positioning of Rigid Objects using Algebraic and Moment Invariants. Advisor: David B. Cooper.
2. Licenciado en Ciencias Matemáticas (equivalent to a B.Sc. plus M.Sc. in Mathematics), University of Buenos Aires, Argentina, March 1981. Thesis title: Analytic Rings. Advisor: Eduardo J. Dubuc.

3. Professional appointments

1. September 1st 2003 - , Associate Professor of Engineering and Computer Science, Brown University.
2. September 2002-August 2003: Research Staff Member, Pervasive Computing Solutions, IBM T. J. Watson Research Center.
3. September 2001- August 2002: Research Staff Member, Visual Technologies, IBM T. J. Watson Research Center.
4. September 2000 – August 2001: Visiting Professor of Electrical Engineering, California Institute of Technology.
5. July 1996 – August 2000: Manager, Visual and Geometric Computing, IBM T. J. Watson Research Center.
6. July 1995 - July 1996: Research Staff Member, Visualization, Interactions, and Graphics, IBM T. J. Watson Research Center.
7. September 1992 - July 1995: Research Staff Member, Exploratory Computer Vision, IBM T. J. Watson Research Center.
8. September 1990 - September 1992: Visiting Scientist (Post-Doc), Exploratory Computer Vision Group, IBM T. J. Watson Research Center.
9. September 1988 - August 1990: Research Assistant, Laboratory For Engineering Man-Machine Systems (LEMS), Division of Engineering, Brown University.
10. June 1988 - August 1988: Summer Intern, Exploratory Computer Vision, IBM T. J. Watson Research Center.
11. September 1988 - August 1990: Teaching Assistant, Division of Engineering, Brown University.
12. June 1987 - August 1987: Summer Intern, AI Systems, IBM T. J. Watson Research Center.
13. November 1981 - August 1986: Manager Partner, Pulsars S.R.L, Argentina (a company that I started and owned).
14. March 1981 - August 1984: Research and Teaching Assistant, Department of Mathematics, University of Buenos Aires, Argentina.
15. September 1979 - February 1981: Undergraduate Teaching Assistant, Department of Mathematics, University of Buenos Aires, Argentina.

4. Publications and Presentations

BOOK CHAPTERS

1. New Results in Signal Processing and Compression of Polygon Meshes, in Geometric Modeling for Scientific Visualization, Guido Brunnett, Bernd Hamann, and Heinrich Mueller (eds.), Springer Verlag 2004.
2. Constructing Hamiltonian Triangle Strips on Quadrilateral Meshes, in Visualizations and Mathematics III, Hans-Christian Hege and Konrad Polthier (eds.), Springer Verlag, 2003.
3. Algebraic Curves and Surfaces in 3D Computer Vision, by G. Taubin. In The Mathematics of Surfaces V, R. Fisher, ed., Oxford University Press, 1994.

4. Representations and Algorithms for 3D Curved Object Recognition, by J. Ponce, D.J. Kriegman, S. Petitjean, S. Sullivan, G. Taubin, and B. Vijayakumar. In *Techniques for 3D Object Recognition*, A. Jain and P. Flynn, (eds.). Elsevier Press, 1993.
5. Object Recognition Based on Moment (or Algebraic) Invariants, by G. Taubin and D.B. Cooper. In *Geometric Invariance in Computer Vision*, J. Mundy and A. Zisserman, (eds.), MIT Press, 1992.
6. 2D and 3D Object Recognition and Positioning with Algebraic Invariants and Covariants, by G. Taubin and D.B. Cooper. In *Symbolic and Numerical Computation for Artificial Intelligence*, B. Donald, D. Kapur, and J. Mundy, (eds.), Academic Press, 1992.

REFEREED JOURNAL ARTICLES

1. Dual Mesh Resampling by G. Taubin, *Graphical Models*, vol. 64, no. 2, pp. 94-113, 2002.
2. Detecting and Reconstructing Subdivision Connectivity by G. Taubin, *The Visual Computer*, Special Issue on Subdivision, edited by A. Nasri, July 2002.
3. Building a Digital Model of Michelangelo's Florentine Pieta', by F. Bernardini, I. Martin, J. Mittleman, H. Rushmeier, and G. Taubin, *IEEE Computer Graphics & Applications*, January/February 2002.
4. Cutting and Stitching: Converting Sets of Polygons to Manifold Surfaces, by A. Gueziec, G. Taubin, F. Lazarus, and W. Horn, *IEEE Transactions on Visualization and Computer Graphics*, Vol. 7, No. 2, April-June 2001, pp. 136-151.
5. 3D Mesh Geometry Filtering Algorithms for Progressive Transmission Schemes, by R. Balan and G. Taubin, *Computer-Aided Design* 32 (2000) 825-846, Special Issue on Multi-Resolution Geometric Models.
6. Multi-resolution Modeling and 3D Geometry Compression, by A. Gueziec, and G. Taubin, *Computational Geometry: Theory and Applications*, special issue on 3D Model Coding, Editing, and Transmission, Vol. 14, Issue 1-3, 30 November 1999, pp. 1-3.
7. Efficient Compression of Non-Manifold Polygonal Meshes, by A. Gueziec, F. Bossen, G. Taubin, and C. Silva, *Computational Geometry: Theory and Applications*, special issue on 3D Model Coding, Editing, and Transmission, Vol. 14, Issue 1-3, 30 November 1999, pp. 137-166.
8. The Ball-Pivoting Algorithm for Surface Reconstruction, by F. Bernardini, J. Mittleman, H. Rushmeier, C. Silva, and G. Taubin, *IEEE Transactions on Visualization and Computer Graphics*, Vol. 5, No. 4, October/December 1999, pp. 349-359.
9. A Framework for Streaming Geometry in VRML, by A. Gueziec, G. Taubin, F. Lazarus, and B. Horn, *IEEE Computer Graphics & Applications*, special issue on VRML, Vol. 19, No. 2, March/April 1999.
10. Geometric Coding and VRML, by G. Taubin, W.P. Horn, F. Lazarus, and J. Rossignac, *Proceedings of the IEEE*, Special issue on multimedia signal processing, 1998 (invited).
11. Geometric Compression through Topological Surgery (IBM Research 1998 Best Computer Science Paper Award), by G. Taubin and J. Rossignac, *ACM Transactions on Graphics*, Vol. 17, No. 2, 1998.
12. Implicit Simplicial Models I: Adaptive Curve Reconstruction, by G. Taubin and R. Ronfard, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 18, No. 3, March 1996.
13. An Accurate Algorithm for Rasterizing Algebraic Curves and Surfaces, by G. Taubin. *IEEE Computer Graphics & Applications*, March 1994.
14. Parameterized Families of Polynomials for Bounded Algebraic Curve And Surface Fitting, by G. Taubin, F. Cukierman, S. Sullivan, J. Ponce, and D.J. Kriegman. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, March 1994.
15. Distance approximations for Rasterizing Implicit Curves, by G. Taubin. *ACM Transactions on Graphics*, January 1994.
16. Estimation Of Planar Curves, Surfaces And Nonplanar Space Curves Defined By Implicit Equations, With Applications To Edge And Range Image Segmentation, by G. Taubin. In *IEEE Transactions on Pattern Analysis and Machine Intelligence*, November 1991.
17. Analytic Rings, by E.J. Dubuc and G. Taubin. *Cahiers de Topologie et Geometrie Differentielle*, Vol. XXIV-3, 1983.

INVITED CONFERENCE PRESENTATIONS AND PAPERS

1. Keynote Speaker, International Conferences in Central Europe on Computer Graphics, Visualization and Computer Vision, University of West Bohemia, Plzen, Czech Republic, January 2006
2. Keynote Speaker, 1st Ibero-American Symposium on Computer Graphics, Guimarães, Portugal, June 2002
3. Keynote Speaker, 1st Symposium on 3D Data Processing, Visualization, and Transmission, Padova, Italy, June 2002
4. Plenary Speaker, Instituto de Matemática Pura e Aplicada (IMPA) – 50 Years, Rio de Janeiro, Brazil, June 2002
5. Keynote Speaker, 3rd International Workshop on Visualization and Mathematics, VisMath'2002, Berlin, Germany, May 2002
6. Keynote Speaker, Workshop on Geometric Modeling, Computing, and Visualization 2001, University of Aizu, Japan, October 2001.
7. Keynote Speaker, Pacific Graphics 2001, Tokyo, Japan, October 2001.
8. Invited Speaker, Institute for Mathematics and its Applications, University of Minnesota, Workshop on Computer Graphics, 2000-2001 Program on Mathematics in Multimedia, May 2001.
9. Discrete Surface Signal Processing, NSF/ARPA Workshop on Object Representation in Computer Vision, New York City, December 1994.
10. Object Representation and Recognition with Algebraic Curves and Surfaces, Summer School of Algebraic Geometry and Computer Vision, Domaine des Courmettes, France, June 1993.
11. Estimation of Surfaces Defined by Implicit Equations, Annual Meeting of the American Statistical Association, Boston, Massachusetts, August 1992.
12. The Role of Algebraic Geometry in Computer Vision, SPIE Conference on Curves and Surfaces in Computer Vision and Graphics III, Boston, Massachusetts, November 1992.

REFEREED CONFERENCE PAPERS

1. Extracting Boolean Isosurfaces From Tetrahedral Meshes, by G. Taubin and P. Sibley, Siggraph 2006, Sketches Session, August 2006.
2. Beyond Silhouettes: Surface Reconstruction using Multi-Flash Photography, by Daniel Crispell, Douglas Lanman, Peter G. Sibley, Yong Zhao and Gabriel Taubin, Third International Symposium on 3D Data Processing, Visualization and Transmission, 3DPVT 2006, University of North Carolina, Chapel Hill, USA, June 2006.
3. Spherical Catadioptric Array: Construction, Geometry, and Calibration, by D. Lanman, D. Crispell, M. Wachs, and G. Taubin, Third International Symposium on 3D Data Processing, Visualization and Transmission, 3DPVT 2006, University of North Carolina, Chapel Hill, USA, June 2006.
4. Reconstructing a 3D Line from a Single Catadioptric Image, by D. Lanman, M. Wachs, G. Taubin, and F. Cukierman, Third International Symposium on 3D Data Processing, Visualization and Transmission, 3DPVT 2006, University of North Carolina, Chapel Hill, USA, June 2006.
5. Real-Time Median Filtering for Embedded Smart Cameras, by Y. Zhao and G. Taubin, IEEE International Conference on Computer Vision Systems, St. Johns University, Manhattan, New York City, January 2006
6. Vectorfield Isosurface-Based Reconstruction From Oriented Points, by P. G. Sibley and G. Taubin, Siggraph 2005, Sketches Session, August 2005.
7. Hierarchical G1 Smooth Surface Interpolation With Local Control, by G. Taubin, and W. Klug, Siggraph 2005, Poster Session, August 2005.
8. Image-Based Rug Patterns, by D. Crispell, and G. Taubin, Siggraph 2005, Poster Session, August 2005.
9. Calibrating a Catadioptric Light-Field Array, by M. Wachs, D. Crispell, and G. Taubin, Siggraph 2005, Poster Session, August 2005.
10. Atlas Aware Laplacian Smoothing, by P. G. Sibley and G. Taubin, IEEE Visualization 2004, Poster Session, October 2004.
11. Image-Based Object Editing, by H. Rushmeier, J. Gomes, L. Balmelli, F. Bernardini, and G. Taubin, 4th

- International Conference on 3D Digital Imaging and Modeling, 3DIM 2003, October 2003.
12. Estimating the in/out function of a surface represented by points, by V. Mello, L. Velho, G. Taubin, Proceedings of the 8th ACM Symposium on Solid Modeling and Applications, Seattle, WA, June 2003.
 13. BLIC: Bi-Level Isosurface Compression, by G. Taubin, Proceedings of IEEE Visualization 2002, Boston, October 2002.
 14. Volume Warping for Adaptive Isosurface Extraction, by L. Balmelli, C. Morris, G. Taubin, and F. Bernardini, Proceedings of IEEE Visualization 2002, Boston, October 2002.
 15. Space-Optimized Texture maps, by L. Balmelli, G. Taubin, and F. Bernardini, in Proceedings of Eurographics 2002, Germany, October 2002 (Günter Enderle Best Paper Award).
 16. Constructing Hamiltonian Triangle Strips on Quadrilateral Meshes, by G. Taubin, International Workshop on Visualization and Mathematics 2002, Berlin-Dahlem, Germany, May 2002.
 17. Dual Mesh Resampling, by G. Taubin, in Proceedings of Pacific Graphics 2001, Tokyo, Japan, October 2001.
 18. Is This A Quadrisected Mesh?, by G. Taubin, Sixth ACM Symposium on Solid Modeling and Applications, Solid Modeling 2001, Ann Arbor, Michigan, June 2001.
 19. Efficient Compression of Non-Manifold Polygonal Meshes, by A. Gueziec, F. Bossen, G. Taubin, and C. Silva, IEEE Visualization'99, 1999.
 20. Converting Sets of Polygons to Manifold Surfaces by Cutting and Stitching, by A. Gueziec, G. Taubin, F. Lazarus, and W. Horn, IEEE Visualization'98, 1998. Also presented as a Technical Sketch, Siggraph'98, Orlando, FL, July 1998.
 21. A Framework for Memory-Efficient Levels of Detail, by A. Gueziec, and G. Taubin, Tenth Canadian Conference on Computational Geometry, Montreal, Canada, August 1998.
 22. Progressive Forest Split Compression, by G. Taubin, A. Gueziec, W. Horn, and F. Lazarus, Siggraph'98, Orlando, FL, July 1998.
 23. Acquiring Input For Rendering at Appropriate Levels of Detail: Digitizing a Pieta, by H. Rushmeier, F. Bernardini, J. Mittleman, and G. Taubin, Ninth Eurographics Rendering Workshop, June 1998.
 24. Surface Partitions for Progressive Loading and Display and Dynamic Simplification of Polygonal Surfaces, by A. Gueziec, F. Lazarus, and G. Taubin, VRML'98, Monterrey, CA, February 1998.
 25. VeggieVision: A Produce Recognition System, by R. Bolle, J. Connell, N. Haas, R. Mohan, and G. Taubin, IEEE Workshop on Automatic Identification Advanced Technologies (WAIAT-97), Stony Brook, New York, November 1997.
 26. Applying Shape from Lighting Variation to Bump Map Capture, by H. Rushmeier, G. Taubin, and A. Gueziec, Eighth Eurographics Rendering Workshop, June 1997.
 27. VeggieVision: A Produce Recognition System, by R. Bolle, J. Connell, N. Haas, R. Mohan, and G. Taubin, Third IEEE Workshop on Applications of Computer Vision (WACV-96), Sarasota, Florida, December 1996.
 28. Optimal Surface Smoothing as Filter Design, by G. Taubin, T. Zhang, and G. Golub, Fourth European Conference on Computer Vision (ECCV'96).
 29. Computer Integrated Revision Total Hip Replacement Surgery: Preliminary Results, by L. Joskowicz, R.H. Taylor, B. Williamson, R. Kane, A. Kalvin, A. Gueziec, G. Taubin, J. Funda, S. Gomory, L. Brown, and J. McCarthy, Second Int. Symposium on Medical Robotics and Computer-Assisted Surgery (MRCAS '95), Baltimore, Nov. 5-7, 1995
 30. A Signal Processing Approach to Fair Surface Design, by G. Taubin, Siggraph'95.
 31. Curve and Surface Smoothing Without Shrinkage, by G. Taubin, Fifth International Conference on Computer Vision (ICCV'95).
 32. Estimating the Tensor of Curvature of a Surface from a Polyhedral Approximation, by G. Taubin, Fifth International Conference on Computer Vision (ICCV'95).
 33. An Accurate Algorithm for Rasterizing Algebraic Curves, by G. Taubin. Second ACM/IEEE Symposium on Solid Modeling and Applications, Montreal, Canada, May 1993.
 34. An Improved Algorithm for Algebraic Curve and Surface Fitting, by G. Taubin. Fourth International Conference on Computer Vision (ICCV'93), Berlin, Germany, May 1993.

35. Constrained Implicit Function Fitting, by G. Taubin, B. Vemuri, and R.M. Bolle. 11th. International Conference on Pattern Recognition (ICPR'92), The Hague, Holland, September 1992.
36. Parameterizing and Fitting Bounded Algebraic Curves and Surfaces, by G. Taubin, F. Cukierman, S. Sullivan, J. Ponce, and D.J. Kriegman. IEEE Conference on Computer Vision and Pattern Recognition (CVPR'92), Champaign, IL, June 1992.
37. Representing And Comparing Shapes Using Shape Polynomials, by G. Taubin, R.M. Bolle, and D.B. Cooper. Proceedings, IEEE Conference on Computer Vision and Pattern Recognition (CVPR'89), San Diego, CA, June 1989.
38. A New Model-Based Stereo Approach For 3D Surface Reconstruction Using Contours On The Surface Pattern, by D.B. Cooper, Y.P. Hung, and G. Taubin. Proceedings, International Conference on Computer Vision (ICCV'88), Tampa, Florida, December 1988.
39. Nonplanar Curve And Surface Estimation In 3-Space, by G. Taubin. Proceedings, IEEE Conference on Robotics and Automation (R&A'88), Philadelphia, Pennsylvania, 1988.

UNREFEREED CONFERENCE PAPERS AND TECHNICAL REPORTS

1. Towards Real-Time Massive Geometry Signal Processing, by G. Taubin, BIRS Workshop on Mathematical Foundations of Scientific Visualization, Computer Graphics, and Massive Data Exploration, Banff International Research Station, Canada, May 2004 (invited).
2. Linear Anisotropic Mesh Filters, by G. Taubin, IBM Research Technical Report RC-22213, October 2001
3. Curvature-based Estimation of Surface Sampling, by C. Silva and G. Taubin, SIAM Conference on Geometric Design, Albuquerque, NM, November 1999
4. Implicit Simplicial Models for Adaptive Curve and Surface Reconstruction, SIAM Conference on Geometric Design, by G. Taubin and R. Ronfard, Tempe, AZ, November 1993.
5. An Accurate Algorithm for Rasterizing 2D Projections of 3D Algebraic Curves, by G. Taubin, SIAM Conference on Geometric Design, Tempe, AZ, November 1993.
6. The QBIC Project: Querying Images by Content Using Color, Texture, and Shape, by W. Niblack, R. Barber, W. Equitz, M. Flickner, E. Glasman, D. Petkovic, P. Yanker, and G. Taubin, Conference on Storage and Retrieval for Image and Video Databases, SPIE/SPSE Symposium on Electronic Imaging, February 1993.
7. Algebraic Curves And Surfaces In 3D Computer Vision, by G. Taubin, IMA Conference on Mathematics of Surfaces V, Edinburgh, Scotland, September 1992.
8. Bounded and Unbounded Implicit Polynomial Curves and Surfaces, Mahalanobis Distances, and Geometric Invariants, for Robust Object Recognition, by D. Keren, J. Subrahmonia, D.B. Cooper G. Taubin, Proceedings, DARPA Image Understanding Workshop, January 1992.
9. Object Recognition Based on Moment (or Algebraic) Invariants by G. Taubin and D.B. Cooper, IBM Technical Report RC-17387, October 1991.
10. Recognition and Positioning of Rigid Objects Using Algebraic Moment Invariants, by G. Taubin and D.B. Cooper, Proceedings, Conference on Geometric Methods in Computer Vision, SPIE's 36th. Annual International Symposium on Optical and Optoelectronic Applied Science and Engineering, July 1991.
11. Toward a 2D and 3D Object Recognition and Positioning System Based on Moment Invariants, by G. Taubin and D.B. Cooper, Proceedings, First DARPA-ESPRIT Workshop on Invariance, Reykhavik, Iceland, March 1991.
12. Recognition and Positioning of Piecewise Algebraic Objects, by G. Taubin and D.B. Cooper, Proceedings, DARPA Image Understanding Workshop, September 1990.
13. Classification and Positioning of Algebraic Curves and Surfaces, by G. Taubin and D.B. Cooper, Proceedings, 5th. IEEE International Symposium on Intelligent Control, September 1990.
14. Recognition and Positioning of 3D piecewise Algebraic Objects Using Euclidean Invariants, by G. Taubin and D.B. Cooper, Workshop on The Integration of Numerical and Symbolic Computing Methods, and IBM Technical Report RC-16211, October 1990.

TUTORIALS AND COURSES / LECTURE NOTES

1. Siggraph'2002 Course on MPEG-4, speaker, San Antonio, Texas, July 2002.

2. Course on 3D Photography, 1st Symposium on 3D Data Processing, Visualization, and Transmission, speaker, Padova, Italy, June 2002.
3. Siggraph'2001 Course on Geometric Signal Processing on Large Polygonal Meshes, G. Taubin, and L. Kobbelt (organizers and speakers) Siggraph'2001, Los Angeles, California, August 2001.
4. ACM Solid Modeling '2001 Course on 3D Geometry Compression, organizer and speaker, Ann Arbor, Michigan, June 2001.
5. Geometric Signal Processing on Polygonal Meshes, Eurographics State of the Art Report, August 2000.
6. Siggraph'2000 Course on 3D Geometry Compression, G. Taubin and J. Rossignac (organizers) Siggraph'2000, New Orleans, Louisiana, July 2000.
7. 3D Geometry Compression and Progressive Transmission, Eurographics State of the Art Report, September 1999.
8. Siggraph'99 Course on 3D Geometry Compression, G. Taubin and J. Rossignac (organizers) Siggraph'99, Los Angeles, CA, August 1999.
9. Siggraph'98 Course on 3D Geometry Compression, G. Taubin and J. Rossignac (organizers) Siggraph'98, Orlando, FL, July 1998.
10. 3D Geometry Compression in MPEG-4, speaker, in Course on 3D Geometry Compression, Siggraph'2000, New Orleans, Louisiana, July 2000.
11. 3D Geometry Compression in MPEG-4, speaker, in Course on 3D Geometry Compression, Siggraph'99, Los Angeles, CA, August 1999.
12. 3D Geometry Compression Based on Topological Surgery, speaker, in Course on 3D Geometry Compression, Siggraph'98, Orlando, FL, July 1998.
13. The VRML Compressed Binary Format, G. Taubin, W.P. Horn and F. Lazarus (organizers and speakers), VRML'97, Monterey, CA, February 1997.
14. Object Recognition with Algebraic Geometry, Invariants, and Bayesian Methods, by G. Taubin and D. B. Cooper, IEEE Conference on Computer Vision and Pattern Recognition (CVPR'93), New York, June 1993.

INVITED LECTURES

1. SUNY, Stony Brook, NY, May 2006.
2. INRIA Rhone-Alpes, Grenoble, France, June 2005.
3. Yale University, New Haven, CT, April 2005.
4. Ohio State University, Distinguished Lecture Series in Computer Science, November 2002.
5. Columbia University, Distinguished Lecture Series in Computer Science, November 2002.
6. University of Toronto, 2002
7. Michigan State University, Distinguished Lecture Series, November 2001.
8. University of Utah, E&S Distinguished Lecture Series, November 2000.
9. University of California at Los Angeles (UCLA), 2000
10. NASA Jet Propulsion Laboratory (JPL), 2000
11. University of North Carolina (UNC), 2000
12. Johns Hopkins University (JHU), Baltimore, MD, 2000
13. New York University, NY, 1999
14. IMA University of Minnesota, Minneapolis, MN, 1997
15. SIAM Annual Meeting, Palo Alto, CA, 1997
16. Austin Software Council, Austin, TX, 1997
17. Purdue University, West Lafayette, IN, 1997
18. World Movers VRML Developers Conference, San Francisco, CA, 1997

19. Stanford University, Palo Alto, CA, 1996
20. Yale University, New Haven, CT, 1994
21. Stanford University, Palo Alto, CA, 1994
22. Brown University, Providence, RI, 1994
23. McGill University, Montreal, Canada, 1993
24. Harvard University, Cambridge, MA, 1993
25. IBM Banking Division, Charlotte, NC, 1993
26. SRI International, Mountain View, CA, 1992
27. Xerox PARC, Palo Alto, CA. 1992: Stanford University, Palo Alto, CA, 1992
28. University of Kansas, Lawrence, KS, 1992
29. University of Illinois, Urbana-Champaign, IL, 1991
30. MIT, Cambridge, MA, 1991
31. Harvard University, Cambridge, MA, 1990
32. IBM T.J. Watson Research Center, Yorktown Heights, NY, 1988
33. Drexel University, Philadelphia, PA, 1988

5. Products and Software Development (while at IBM Research)

1. Project leader, Smart Cameras project, 2002-2003.
2. Support for 3D objects in IBM HotMedia. HotMedia is a Java-based solution for incorporating rich media effects into Web applications. Responsible for development and implementation based on MPEG-4 3D Mesh Coding technology. Project leader and co-developer. First product incorporating MPEG-4 3D Mesh Coding technology. PC Expo 2000 Best of Show Award in Software category. 1999-2000.
3. MPEG-4 3D Mesh Coding Reference Software. Integral part of ISO/IEC 14496-5 (Reference Software). Project leader and co-developer. 1998-2000.
4. VRML Compressed Binary Format Proposal, reference implementation and 3D model optimizer software. Project leader and co-developer. 1996-1997. IBM Panoramix, image-based rendering panoramic viewer. Project manager. 1997-1998.

6. Patents

US / PROVISIONAL FILINGS

1. A METHOD TO EXTRAPOLATE HIGH RESOLUTION HIGH FRAME RATE VIDEO FROM TWO SYNCHRONIZED LOW RESOLUTION HIGH FRAME RATE AND HIGH RESOLUTION LOW FRAME RATE VIDEOS, by G. Taubin, provisional filing by Brown University, March 2006.
2. HIERARCHICAL METHOD TO GENERATE SMOOTH SURFACE PATCHES, by G. Taubin and W. Klug, provisional filing by Brown University and UCLA, March 2005.
3. SYSTEM TO MAKE AND RECEIVE TELEPHONE CALLS REMOTELY THROUGH A COMPUTER NETWORK, by G. Taubin, provisional filing by Brown University, April 2004.

US / PUBLISHED APPLICATIONS

1. US2005/0275659 A1, SYSTEM, METHOD, AND ARTICLE OF MANUFACTURE FOR SHADING COMPUTER GRAPHICS, published 12/15/2005
2. US2005/0062739 A1, METHOD AND STRUCTURE FOR IMAGE-BASED OBJECT EDITING, published 03/24/2005
3. US2004/0193391 A1, VOLUME WARPING FOR ADAPTIVE ISOSURFACE EXTRACTION, published 09/30/2004
4. US2004/0021662 A1, BI-LEVEL ISOSURFACE COMPRESSION, published 02/05/2004

5. US2003/0152288 A1, SPACE-OPTIMIZED TEXTURE MAPS, published 08/14/2003

US / ISSUED

1. US6987511, LINEAR ANISOTROPIC MESH FILTERING, published 01/17/2006
2. US6968299, METHOD AND APPARATUS FOR RECONSTRUCTING A SURFACE USING A BALL-PIVOTING ALGORITHM, issued 11/22/2005.
3. US6943790, DUAL MESH RESAMPLING, issued 09/13/2005.
4. US06455835, SYSTEM, METHOD, AND PROGRAM PRODUCT FOR ACQUIRING OBJECT SILHOUETTES FOR SHAPE RECOVERY, issued 09/24/2002
5. US06452596, METHOD AND APPARATUS FOR THE EFFICIENT COMPRESSION OF NON-MANIFOLD POLYGONAL MESHES, issued 09/17/2002
6. US06445389, COMPRESSION OF POLYGONAL MODELS WITH LOW LATENCY DECOMPRESSION, issued 09/03/2002
7. US06356262, SYSTEM AND METHOD FOR FAST POLYHEDRAL CELL SORTING, issued 03/12/2002
8. US06307551, METHOD FOR GENERATING AND APPLYING CHANGES IN THE LEVEL OF DETAIL OF A POLYGONAL SURFACE, issued 10/23/2001
9. US06184897, COMPRESSED REPRESENTATION OF CHANGING MESHES AND METHOD TO DECOMPRESS, issued 02/06/2001
10. US06031548 PROGRESSIVE MULTI-LEVEL TRANSMISSION AND DISPLAY OF TRIANGULAR MESHES, issued 02/29/2000
11. US06016153, METHOD TO CONVERT NON-MANIFOLD POLYHEDRAL SURFACES INTO MANIFOLD SURFACES, issued 01/18/2000
12. US06009435, PROGRESSIVE COMPRESSION OF CLUSTERED MULTI-RESOLUTION POLYGONAL MODELS, issued 12/28/1999
13. US05974168, ACQUIRING BUMP MAPS FROM CURVED OBJECTS, issued 10/26/1999
14. US05905507, COMPRESSION OF GEOMETRIC MODELS USING SPANNING TREES, issued 05/18/1999
15. US05825369, COMPRESSION OF SIMPLE GEOMETRIC MODELS USING SPANNING TREES, issued 10/20/1998
16. US05631976, OBJECT IMAGING SYSTEM, issued 05/20/1997
17. US05506947, CURVE AND SURFACE SMOOTHING WITHOUT SHRINKAGE, issued 04/09/1996
18. US05546475, PRODUCE RECOGNITION SYSTEM, issued 08/13/1996

CANADA

1. CA02144404AA, PRODUCE RECOGNITION SYSTEM, issued 10/30/1995

EUROPE

2. DE69518947T2, PRODUKTERKENNUNGSSYSTEM, (Germany), issued 03/22/2001
3. ES02151000T3, SISTEMA DE RECONOCIMIENTO DE PRODUCTOS, (Spain), issued 12/16/2000
4. DE69518947C0, PRODUKTERKENNUNGSSYSTEM, (Germany), issued 11/02/2000
5. AT00196695E, PRODUKTERKENNUNGSSYSTEM, (Austria), issued 10/15/2000
6. EP00685814B1, PRODUCE RECOGNITION SYSTEM, issued 09/27/2000
7. EP00685814A3, PRODUCE RECOGNITION SYSTEM, issued 03/05/1997
8. EP00703547A2, CURVE AND SURFACE SMOOTHING WITHOUT SHRINKAGE, issued 03/27/1996
9. EP00685814A2, PRODUCE RECOGNITION SYSTEM, issued 12/06/1995
10. EP00680205A2, IMAGING SYSTEM FOR OBJECT SEGMENTATION, issued 11/02/1995

JAPAN

1. JP10079049A2, METHOD AND SYSTEM FOR COMPRESSING AND DECOMPRESSING GEOMETRIC MODEL, AND DATA STRUCTURE, issued 03/24/98
2. JP08096147A2, METHOD FOR SMOOTHING CURVE AND CURVED SURFACE HAVING NO DEGRADATION, issued 04/12/1996
3. JP07302343A2, SYSTEM FOR RECOGNIZING OBJECT AND ITS METHOD, issued 11/14/1995
4. JP07302339A2, OBJECT PICTURE PROCESSING SYSTEM AND ITS METHOD, issued 11/14/1995

KOREA

1. KR00190737B1, PRODUCE RECOGNITION SYSTEM, issued 06/01/1999
2. KR0233972B1, COMPRESSION OF SIMPLE GEOMETRIC MODELS USING SPANNING TREES, issued 12/15/1999

AUSTRALIA

1. AU00685904B2, PRODUCE RECOGNITION SYSTEM, issued 01/29/1998
2. AU01503495A1, PRODUCE RECOGNITION SYSTEM, issued 11/09/1995

CHINA

1. CN01123940A, PRODUCE RECOGNITION SYSTEM, issued 06/05/96

ARGENTINA

1. AR228982, TRANSCUTANEOUS ELECTRONIC NERVE STIMULATOR, issued 1980

7. Service

UNIVERSITY

1. Member of Computer Graphics Hiring Committee, Computer Science Department, 2005-2006 academic year.
2. Member of Computer Engineering Hiring Committee, Division of Engineering, 2003-2004 academic year.
3. Chair, Division of Engineering Honor Thesis Committee, 2004, 2005, and 2006.

IBM RESEARCH COMMITTEES

1. Chair, Graphics and Visualization Professional Interest Community, 1999-2000; responsible for establishing long-term relationships and joint projects with academia, negotiating conference sponsorships, and organizing the lecture series.
2. Member, IBM Student Fellowship committee, 1999.
3. Member, IBM Student Fellowship committee, 2000.

PROFESSIONAL MEMBERSHIPS

1. IEEE & Computer Society, student member 1986, member 1990, senior member 1995, Fellow 2001.
2. SIAM, student member 1987, member 1990.
3. ACM & Siggraph, member 1992.
4. Eurographics, member 1999.

PROFESSIONAL ACTIVITIES / EDITORIAL

1. Associate Editor, IEEE Transactions on Visualization and Computer Graphics, since March 2006.

2. Associate Editor, The International Journal of Image and Graphics (IJIG), since November 2005.
3. Member of the Editorial Board, Graphical Models, since August 2002.
4. Guest Editor, Graphical Models, special issue on Processing of Large Polygonal Meshes, vol. 64, no. 3-4, May-July 2003.
5. Guest Editor, Computational Geometry: Theory and Applications, special issue on 3D Model Coding, Editing, and Transmission, Volume 14, Issue 1-3, 30 November 1999

PROFESSIONAL ACTIVITIES / CONFERENCES

1. Co-Chair, 1st Workshop on 3D Cinematography, held jointly with the IEEE Conference on Computer Vision and Pattern Recognition 2006, New York City, June 2006.
2. Steering Committee Member, 3rd International Symposium on 3D Data Processing, Visualization, and Transmission, 2006.
3. General Co-Chair, 2nd International Symposium on 3D Data Processing, Visualization, and Transmission, 2004.
4. Program Co-Chair, 9th ACM Symposium on Solid Modeling and Applications, 2004.
5. Organizer and Co-Chair, Special Session on Encoding of 3D Models for Efficient Delivery, IEEE International Conference on Multimedia and Expo (ICME 2002), August 26-29, 2002, Lausanne, Switzerland.
6. Session Chair, Siggraph'2002, July 2002.
7. Organizer and Chair, session on 3D Geometry Compression, 1st Symposium on 3D Data Processing, Visualization, and Transmission (3DPVT), Padova, Italy, June 2002.
8. Session Chair, Siggraph'2001, August 2001.
9. Organizer, Course on 3D Geometry Compression, Siggraph'2000, July 2000.
10. Organizer, Course on 3D Geometry Compression, Siggraph'99.
11. Organizer, Workshop on Multi-Resolution Representation of 3D Geometry for Progressive Transmission, IEEE Visualization'98.
12. Organizer, Course on 3D Geometry Compression, Siggraph'98.
13. Organizer, Course on VRML Compressed Binary Format, VRML'97, February 1997.
14. Co-chair, Conference on Geometric Methods in Computer Vision, SPIE's International Symposium on Optical and Optoelectronic Applied Science and Engineering, July 1991.

PROFESSIONAL ACTIVITIES / COMMITTEES

1. Program Committee Member, 9th European Conference on Computer Vision (ECCV 2006)
2. Member, Program Committee, Brazilian Symposium on Computer Graphics and Image Processing (SIBGRAPI 2006), Manaus, Amazonas, Brazil, October 8-11 2006.
3. Member, Program Committee, 3rd Symposium on Geometry Processing (SGP 2006), Cagliari, Sardinia June, 2006.
4. Member, Program Committee, IEEE International Conference on Computer Vision and Pattern Recognition (CVPR 2006), New York City, June 2006.
5. Member, International Program Committee, 14th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision (WSCG 2006), Czech Republic, January 2006.
6. Member, Program Committee, 2nd Symposium on Geometry Processing (SGP 2005), July 2005, Vienna, Austria.
7. Member, International Program Committee, 23rd Computer Graphics International Conference (CGI 2005), June 2005.
8. Member, Program Committee, IEEE International Conference on Computer Vision and Pattern Recognition,

San Diego, June 2005.

9. Member, Program Committee, 5th International Conference on 3-D Digital Imaging and Modeling (3DIM'05), Ottawa, Canada, June 2005.
10. Member, International Program Committee, 13-th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision, Czech Republic, January 2005.
11. Member, Program Committee, Pacific Graphics 2004, Seould, Korea, October 2004.
12. Member, Program Committee, 2nd Symposium on Geometry Processing (SGP 2004), July 2004, Nice, France.
13. Member, Program Committee, Geometric Modeling and Processing (GMP 2004), Beijing, China, April 2004.
14. Member, Program Committee, 1st Symposium on Geometry Processing (SGP 2003), June 2003, Aachen, Germany.
15. Member, Program Committee, 8th ACM Symposium on Solid Modeling and Applications 2003, June 16 - June 20, 2003, Seattle, WA.
16. Member, Program Committee, 8th International Conference on 3D Web Technology (Web3D 2003), March 9 - March 12, 2003, Saint Malo, France.
17. Member, International Program Committee, 11-th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision (WSCG'2003), February 3 - 7, 2003, Prague, Czech Republic.
18. Member, Program Committee, Geometric Modeling and Processing (GMP 2002), July 10-12 2002, Riken, Japan.
19. Member, Papers Program Committee, Siggraph'2002, July 2002.
20. Member, Organizing Committee, 3rd Workshop and Exhibition on MPEG-4, June 2002.
21. Member, Program Committee, Conference on Cyberworlds, sub conference on Geometric Modeling and Computer Graphics, Japan, 2002
22. Member, Program Committee, 1st Ibero-American Symposium in Computer Graphics (SIACG), Portugal, July 2002
23. Member, Program Committee, Geometric Modeling and Processing 2002, Japan, July 2002
24. Member, Program Committee, 10th. International Conference in Central Europe on Member, Program Committee, Computer Graphics, Visualization, and Computer Vision (WSCG'2002), February 2002.
25. Member, Program Committee, Pacific Graphics 2001, October 2001.
26. Member, Program Committee, 14th Brazilian Symposium on Computer Graphics and Image Processing SIBGRAPI 2001, Florianópolis, Brazil, October 2001.
27. Member, Papers Program Committee, Siggraph'2001, August 2001.
28. Member, Organizing Committee, 2nd Workshop and Exhibition on MPEG-4, June 2001.
29. Member, Program Committee, 9th. International Conference in Central Europe on Member, Program Committee, Computer Graphics, Visualization, and Computer Vision (WSCG'2001), February 2001.
30. Member, Program Committee, PACIFIC GRAPHICS 2000, October 2000.
31. Member of the Industry Advisory Board, NSF Center for Neuromorphic Systems Engineering at CalTech, 2000-2001.
32. Member, Best Paper Award Committee, EUROGRAPHICS'2000, August 2000.
33. Member, Program Committee, MPEG-4 Workshop and Exhibition at ISCAS 2000, Geneva, Switzerland, May 2000.
34. Member, Program Committee, 8th. International Conference in Central Europe on Computer Graphics, Visualization, and Computer Vision (WSCG'2000), February 2000.
35. Member, Applications Sketches Committee, Siggraph'98.
36. Member, Best Paper Award Committee, Eurographics'97.

37. Member, Program Committee, IEEE Conference on Computer Vision and Pattern Recognition, 1996.

PROFESSIONAL ACTIVITIES / REFEREEING (incomplete list)

1. ACM SIGGRAPH
2. ACM Transactions on Graphics
3. Computer Vision Graphics and Image Processing
4. IEEE Conference on Computer Vision and Pattern Recognition
5. IEEE Conference on Robotics and Automation
6. IEEE Transactions on Pattern Analysis and Machine Intelligence
7. IEEE Transactions on Systems Man and Cybernetics
8. IEEE Transactions on Visualization and Computer Graphics
9. IEEE Transactions on Circuits and Systems for Video Technology
10. International Conference on Computer Vision
11. International Journal of Computer Vision
12. International Journal of Image and Vision Computing
13. Symposium on Solid Modeling and Applications
14. Computer-Aided Design
15. Computational Geometry Theory and Applications
16. Eurographics Workshop on Rendering
17. Graphical Models and Image Processing
18. Journal of Image Communication and Image Representation
19. Machine Vision and Applications
20. Pacific Graphics
21. International Conference in Central Europe on Computer Graphics Visualization and Computer Vision
22. ASME Design Automation Conference
23. Symposium on Interactive 3D Graphics
24. NSF Program in Probability and Statistics
25. NSF ITR Panel on Graphic and Visualization
26. NSF Panel on Network Technology and Systems, Networking of Sensor Systems (NeTS-NOSS), 2004.
27. NSF CAREER Panel on Graphics and Visualization, 2004
28. NSF Panel on 3D Graphics and Visualization, Interactions between the Mathematical Sciences and Computer Science (MSPA-MCS), 2006

PROFESSIONAL ACTIVITIES / STANDARDS

1. Co-editor, MPEG-4 3D Mesh Coding Specification. Integral part of ISO/IEC 14496-2 (Coding of Visual Objects), 1998-2000.
2. Director, Virtual Reality Modeling Language (VRML) Consortium, February 1997-1998.
3. Co-editor, MPEG-4 3D Mesh Coding Call for proposals, 1996.
4. Co-editor, VRML Compressed Binary Format Proposal, specification, 1996-1997.

8. Academic honors, fellowships, honorary societies

1. Eurographics 2002 Günter Enderle **Best Paper Award**, September 2002.

2. **IEEE Fellow**, "For contributions to the development of three-dimensional geometry compression technology and multimedia standards," January 2001.
3. **IBM Master Inventor**, August 2001. Award granted each year to IBM Research inventors having top scores based on the value to IBM of their United States patents that issued during the last three years.
4. IBM Research Invention Achievement Award, Top 5% Value, July 2001. Award granted each year to particular patents based on their estimated licensing value.
5. IBM Research Invention Achievement Award, Fourth Plateau, May 2000.
6. IBM Research Division 1999 Accomplishment, Software, "HotMedia."
7. IBM Research Division Award "MPEG-4 3D Mesh Coding", 1999.
8. IBM Research Division Award "3D Scanning Michelangelo's Pieta", 1999.
9. IBM Research 1998 Best Computer Science Paper Award, August 1999.
10. IBM Research Invention Achievement Award, Third Plateau, May 1999.
11. IBM Research Division 1998 Accomplishment, Solutions, "3D Capturing and Presenting of Michelangelo's Pieta."
12. IBM Research Division 1998 Accomplishment, Science and Exploratory, "MPEG-4 Standard."
13. IBM Research Invention Achievement Award, Second Plateau, March 1998.
14. IBM Research Invention Achievement Award, First Plateau, September 1996.
15. IBM Research Division Award "for developing and implementing key shape-matching algorithms for QBIC", 1994.
16. IBM First Patent Application Invention Achievement Award for "Produce Recognition System", 1994.
17. IBM Research Accomplishment Award, 1993.
18. IBM Computer Science pre-doctoral fellowship, 1989-1990.
19. IBM Manufacturing Research pre-doctoral fellowship, 1988-1989.
20. Teaching and Research Assistantship, Division of Engineering, Brown University, 1987-1988.
21. Brown University Fellowship, 1986-1987.
22. Travel Award, Fulbright Foundation, 1986.
23. Initiation Fellowship, National Council of Scientific and Technological Research, Argentina, 1986.
24. Travel Award, Cambridge Summer Meeting in Category Theory, Cambridge, England, 1981.

9. Teaching

TEACHING / ACADEMIC

1. Brown University, EN0157, "Linear System Analysis," Fall 2005.
2. Brown University, EN0052, "Electrical Circuits and Systems," Spring 2005.
3. Brown University, EN0193s05, "High-Performance Sensors and Multimedia," Fall 2004.
4. Brown University, EN0052, "Electrical Circuits and Systems," Spring 2004.
5. Brown University, EN0193s08 "3D Photography," Fall 2003.
6. California Institute of Technology, EE-148 "3D Photography," 2000-2001 academic year, instructor. Enrollment: 25.
7. California Institute of Technology, EE-191 "Smart Appliances with Sensory Systems," 2000-2001 academic year, instructor. Enrollment: 5.
8. Brown University, EN0051 "Electricity and Magnetism," 1987-1988 academic year, teaching assistant.
9. Brown University, EN0257 "Applied Stochastic Processes," 1987-1988 academic year, teaching assistant.
10. University of Buenos Aires, Calculus I (one variable), Calculus II (several variables), Calculus III (complex

variables and differential equations), 1981-1983 academic years, Lecturer.

11. University of Buenos Aires, Algebra I, Geometry I, 1979-1981 academic years, teaching assistant.

TEACHING / OTHER

1. Course on the MPEG-4 Standard, Siggraph'2002, speaker. Attendance: 200-300.
2. Course on 3D Photography, 1st Symposium on 3D Data Processing, Visualization, and Transmission, Padova, Italy, June 2002, speaker. Enrollment: 50.
3. Course on Geometric Signal Processing on Large Polygonal Meshes, Siggraph'2001, organizer and speaker. Enrollment: 150-200.
4. Course on 3D Geometry Compression, ACM Solid Modeling 2001, organizer and speaker. Enrollment: 25-30.
5. Course on 3D Geometry Compression, Siggraph'2000, organizer and speaker. Enrollment: 80-120.
6. Course on 3D Geometry Compression, Siggraph'1999, organizer and speaker. Enrollment: 150-200.
7. Course on 3D Geometry Compression, Siggraph'1998, organizer and speaker. Enrollment: 200-300.
8. Course on VRML Compressed Binary Format, VRML'97, organizer and speaker. Enrollment: 40-60.
9. Course on Object Recognition with Algebraic Geometry, Invariants, and Bayesian Methods, IEEE Conference on Computer Vision and Pattern Recognition (CVPR'93), New York, June 1993, organizer and speaker.

ACADEMIC ADVISING / GRADUATE STUDENTS

1. Douglas Lanman, 1st year Engineering graduate student, since Fall 2005.
2. Daniel Crispell, 3rd year Engineering graduate student, since Fall 2003.
3. Peter Sibley, 3rd year Computer Science graduate student, since Summer 2004.
4. Yong Zhao, 2nd year Engineering graduate student, since Summer 2004.

POSTDOCTORAL FELLOWS SUPERVISED

1. Radu Balan (Adviser: Ingrid Daubechies), Ph.D. Princeton, Applied Math, 1998; IBM & University of Minnesota IMA Industrial Postdoctoral Fellow 1998-1999; currently Member of Technical Staff at Siemens Corporate Research, in Princeton, New Jersey (prediction schemes for progressive transmission)

SUMMER INTERNS SUPERVISED

1. Austin Vandergon (undergraduate), Brown summer intern 2006; Smart multi-view camera .
2. Megan Wachs (undergraduate), Brown summer intern 2004; DiMase award. Designed, optimized, and constructed a catadioptric system for gathering data for image based rendering.
3. Joseph Essien (undergraduate), Brown summer intern 2004. Designed and constructed 3D scanning station with integrated computer controlled turntable.
4. Andrew Homik (undergraduate), CalTech summer intern 2001. Implementation of 3D photography system based on space carving in the Kodak DC290 digital camera. Continuation of his final project in my 3D Photography class.
5. Silvio Savarese (Adviser: Pietro Perona), IBM summer intern 1999, IBM summer intern 2000, currently PhD student at CalTech (3D Scanning, space carving, shadow carving, specular surfaces)
6. Hening Bierman (Adviser: Denis Zorin), IBM summer intern 2000, former PhD student at NYU (geometric modeling and subdivision surfaces)
7. Frank Bossen (Adviser: Murat Kunt), IBM summer intern 1998, IBM co-op student academic year 1998-1999, PhD EPFL 1999, currently Member of Technical Staff at Sony Corp., Tokyo, Japan (3D geometry compression)

8. Jijad El-Sana (Adviser: Amitab Varshney), IBM summer intern 1998, PhD SUNY Stony Brook 1999, currently Lecturer at the Department of Mathematics and Computer Science, Ben-Gurion University of the Negev, Israel (viewpoint dependent simplification, occlusion culling)

INDEPENDENT STUDIES PROJECTS

1. Megan Wachs (undergraduate), Fall 2004. Developed a calibration procedure a line reconstruction algorithm for catadioptric system constructed during summer.
2. Joseph Essien (undergraduate), Fall 2004. Completed construction of 3D scanning station with integrated computer controlled turntable. Designed printed circuit board for non-photorealistic rendering camera.
3. Wei Guo, graduate student, informal independent studies project during Fall 2003.

MEMBER OF PhD EXAMINING COMMITTEES

1. Ying He, Manifold Splines, Computer Science, SUNY at Stony Brook, NY, May 2006. Adviser: Hong Qin.
2. Andrew Willis, Stochastic 3D Geometric Models for Classification, Deformation, and Estimation, Engineering, Brown, April 2004. Adviser: David Cooper.
3. Kongbin Kan, 3D Free Form Surface Reconstruction from Occluding Contours in a Sequence of Images or Video, April 2004. Adviser: David Cooper.
4. Haixia Du, Interactive Shape Design Using PDEs, Computer Science, SUNY at Stony Brook, NY, March 2004. Adviser: Hong Qin.
5. Diego Santa Cruz, Parametric 3D Model Compression, Signal Processing Laboratory, EPFL, Switzerland, 2003. Adviser: Touradj Ebrahimi.
6. Koji Ashida, Adaptive Construction of Manifold Meshes, Computer Science, University of Pennsylvania, 2003. Adviser: Norm Badler.
7. Hao (Richard) Zhang, Signal Processing and Eigenvalue Decomposition of Polygonal Meshes and Applications, Computer Science, University of Toronto, Canada, 2002. Adviser: Eugene Fiume.
8. Frank Bossen, On The Art Of Compressing Three-Dimensional Polygonal Meshes And Their Associated Properties, EPFL, Lausanne, Switzerland, June 1999. Adviser: Murat Kunt.
9. Jijad El-Sana, Multiresolution Hierarchies for Multimodal Interaction in Virtual Environments, SUNY at Stony Brook, NY, 1999. Adviser: Amitabh Varshney