Anthony J. Yezzi, Jr.
Julian Hightower Chair Professor
School of Electrical and Computer Engineering
Georgia Institute of Technology

1 Earned Degrees

- B.E.E. University of Minnesota, Department of Electrical Engineering, Music Minor, June 1994, GPA 4.0/4.0
- Ph.D. University of Minnesota, Department of Electrical and Computer Engineering, Mathematics Minor, December 1997, GPA 4.0/4.0

2 Employment

- Julian Hightower Chair Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, Georgia; October 2013 – Present.
- Ken Byers Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, Georgia; October 2012 – September 2013.
- Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, Georgia; July 2008 – September 2012.
- Associate Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, Georgia; July 2004 – July 2008.
  (Adjunct Associate Professor, Department of Biomedical Engineering, July 2004 – August 2005)
- Assistant Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, Georgia; August 1999 – July 2004.
  (Adjunct Assistant Professor, Department of Biomedical Engineering, August 2001 – July 2004)
- Post-Doctoral Associate, Laboratory for Information and Decision Systems, Massachusetts Institute of Technology, Cambridge, Massachusetts; January 1998 – August 1999.
- Research Fellow, Lucent Technologies (Bell Laboratories), Murray Hill, New Jersey; June 27 – September 4, 1996.
- Software Engineer, Aura Ceramics Inc., New Hope, Minnesota; June 1993 – September 1995.
- Software Developer, Alliant Techsystems, New Hope, Minnesota; October 1990 – June 1993.
- Student Intern, Honeywell, New Hope, Minnesota; June 1990 – October 1990.

3 Teaching

3.1 Individual Student/Postdoc Guidance

3.1.1 Past Students/Postdocs

Ph.D. Students Outside Georgia Tech

1. Andy Tsai, PhD (coadvisor with Dr. Alan Willsky at MIT), "Curve Evolution and Estimation-Theoretic Techniques for Image Processing,"

2. Gozde Unal, PhD (coadvisor with Dr. Hamid Krim at NCSU), "Curve and Polygon Evolution Techniques for Image Processing,"

Ph.D. Students from Georgia Tech

1. Siddharth Manay, PhD, Spring 2003. "Applications of Anti-geometric Diffusion in Image Processing,"

2. Christopher Alvino, PhD. Spring 2005. "Multiscale Active Contour Methods in Computer Vision with Applications in Tomography,"

3. Amer Abufadel, PhD, Fall 2006. "4D Segmentation of Cardiac MR Image Sequences Using Active Surfaces with Spatiotemporal Shape Priors,"

4. Jeremy Jackson, PhD, Summer 2007. "Layered Deformotion with Radiance: Variational Approaches for Simultaneous Segmentation, Registration, Tracking, and Motion Estimation,"

5. Ganesh Sundaramoorthi, PhD, Summer 2007. "Geometric Sobolev Metrics and Gradients for Active Contours and Surfaces,"

6. Kelvin Rocha, PhD, Summer 2008. "A Variational Approach for Viewpoint-Based Visibility Maximization,"

7. Vivek Kaul, PhD, Summer 2010. "Tracking and Detection of Crack Patterns Using Minimal Path Techniques"

8. Guillermo Gallego Bonet, PhD, Fall 2010. "Variational Image Processing Algorithms for the Stereoscopic Space- Time Reconstruction of Water Waves"

9. Jehoon Lee, PhD, Fall 2011. "Visual Tracking with Occlusion Handling and Target Requisition,"

10. Vikram Appia, PhD, Spring 2012. "Non-local Active Contours,"

11. Ji Hun Oh, PhD (coadviser), Fall 2012. "Contrast-Enhance MR Liver Image Registration, Segmentation, and Feature Analysis for Liver Disease Diagnosis,"

12. Liang-Jia Zhu, PhD, Fall 2012. "Automatic Segmentation of Wall Structures from Cardiac Images,"

13. Martin Mueller, PhD, Summer 2014. "Physics-Driven Variational Methods for Computer Vision and Shape-Based Imaging."

14. Ping-Chang Shih, PhD, Summer 2014. "Joint Variational Camera Calibration Refinement and 4-D Stereo Reconstruction Applied to Oceanic Sea States,"
15. Daniel Cook (coadviser with Francesco Fedele), Fall 2015. "Variational and Active Surface Techniques for Acoustic and Electromagnetic Imaging,"
16. Christopher Beal (coadvisor with Frank Daellart), Summer 2016 "Appearance-Based Vehicle Localization Across Seasons in a Metric Map"

Masters Students

1. Miguel Lopez, Spring 2005.
2. Gerardo Orozco, Fall 2005.
3. Huy-Nam Doan, Spring 2006.
4. Avinash Bhaskaran, Spring 2016.

Post-doctoral Research Scientists

1. Dr. Gozde Unal. Fall 2002-Fall 2003.
2. Dr. Hua Li. Fall 2004-Summer 2006.
3. Dr. Namrata Vaswani. Summer 2004-Summer 2005.
4. Dr. Jun-Hee Heu, Fall 2009–Fall 2011
5. Dr. Alireza Aghasi, Fall 2013–Fall 2014
6. Dr. Samuel Bignardi, Fall 2013–Fall 2014

3.1.2 Current Students/Postdocs

Current Ph.D. Students

1. Balaji Ganapathy,
2. Yipu Zhao
3. Alper Yildirim
4. Fareed Jafri
5. Robert Friedlander
6. Navdeep Dahiya (ME PhD),
7. Senthil Ramamurthy
8. Yifei Fan
9. Joshua Anderson

Current Postdocs

1. Dr. Samuel Bignardi

3.2 Other Teaching Activities

Graduate Curriculum Development Dr. Yezzi fully developed the graduate course, ECE 6550: "Partial Differential Equations in Image Processing and Computer Vision," which began with three early offerings as special topics courses (starting as ECE 8823 in Spring 2001) This course covers advanced, state-of-the art techniques based upon concepts from differential geometry, the Calculus of Variations, and general PDE theory to address problems including image enhancement, edge detection, segmentation, optical flow, shape from shading, stereo reconstruction, shape analysis, and visual tracking.

Undergraduate Curriculum Development Dr. Yezzi also fully developed the undergraduate breadth course ECE 3090: "Software Fundamentals for Engineering Systems," starting with three early offerings as a special topics course (starting as ECE 3894 in Fall 2001). This course teaches students how to utilize a variety of algorithms and data structures to solve engineering problems in an efficient, object oriented framework. The course is heavily centered around numerous engineering programming assignments which include implementation of the Fast Fourier Transform, Huffman coding, sparse matrix manipulation, simulation and cycle detection in finite state machines, optimal path planning, and image processing. Both C and C++ are progressively taught throughout the duration of the course as well (no prior exposure to either language is assumed) in parallel with the engineering software design concepts to be applied to each problem. Over the past six years two other ECE professors (Drs. Howard and Riley) have taught and made additional contributions to this course as well, which enabled it to be offered both fall and spring semester ever since its incorporation into the "breadth" curriculum. Finally, in Spring 2012, Dr. Yezzi taught the second offering of a new undergraduate special topics course ECE 4833 (first offered by Dr. Wardi in 2009 as 4803) focused on numerical optimization techniques in optimal control including both linear and nonlinear programming and connected computational algorithms.

4 Scholarly Accomplishments

4.1 Edited/Coedited Books

1. *Statistics and Analysis of Shapes*, co-edited book with H. Krim, (ISBN 0817643761) Birkhauser, Boston, 2006.

4.2 Book Chapters

1. "Differential invariants and curvature flows in active vision," (A. Tannenbaum and A. Yezzi), chapter in *Operators, Systems, and Linear Algebra* edited by U. Helmke and D. Praetzel-Wolters, Birkhauser-Verlag, 1997, pp. 196–213.

2. "Gradients, curvature, and visual tracking," (A. Tannenbaum and A. Yezzi), *Computational Methods for Optimal Design and Control* edited by J. Borggaard, J. Burns, E. Cliff, and S. Schreck, Birkhauser-Verlag, 1998, pp. 375–390.

3. "Visual tracking, active vision, and gradient flows," (A. Yezzi and A. Tannenbaum), *The Confluence of Vision and Control*, edited by G. Hager and D. Kriegman, *Lecture Notes in Control and Information Sciences*, Vol. 237, Springer-Verlag, New York, 1998, pp. 183–194.

4. "Mean curvature flows, edge detection, and medical image segmentation," (A. Yezzi, S. Haker, A. Tannenbaum, and S. Angenent), *Computational Methods in Biophysics, Biomaterials, Biotechnology and Medical Systems*, edited by C. Leondes, Kluwer, 2003, pp. 253–269.

5. "The Mumford-Shah Functional: From Segmentation to Stereo," (A. Yezzi, S. Soatto, A. Tsai, and A. Willsky), *Image Analysis: Low and High Level Vision (Vol. 133 in IMA Volume in Mathematics and its Applications).* edited by P. Olver and A. Tannenbaum, Springer-Verlag, New York, 2003, pp. 125–147.

6. "Mumford-Shah for Segmentation and Stereo," (A. Yezzi, S. Soatto, H. Jin , A. Tsai, and A. Willsky), *Geometric Level Set Methods in Imaging, Vision and Graphics*, edited by N. Paragios and S. Osher, (ISBN 0387954880) Springer-Verlag, 2003, pp. 207–227.

7. "Region Matching and Tracking Under Deformations or Occlusions," (S. Soatto, A. Yezzi, and A. Duci), *Geometric Level Set Methods in Imaging, Vision and Graphics*, edited by N. Paragios and S. Osher, (ISBN 0387954880) Springer-Verlag, 2003, pp. 319–340.

8. "Efficient Incorporation of Optical Flow into Visual Motion Estimation in Tracking," (G. Unal, A. Yezzi, and H. Krim), *Machine Learning and Robot Perception*, edited by B. Apolloni, A. Ghosh, F. Alpaslan, L. Jain, and S. Patnaik, (ISBN 978-3-540-26549-8) Springer-Verlag, 2005, pp. 167–202.

9. "On a Stochastic Model of Geometric Snakes," (A. Yezzi, D. Nain, G. Unal, O. Zeitouni, and A. Tannenbaum), *Handbook of Mathematical Models in Computer Vision*, edited by N. Paragios, Y. Chen, and O. Faugeras, (ISBN 0387263713) Springer, 2005, pp. 163–176.

10. "Curve Shortening and Interacting Particle Systems," (S. Angenant, A. Tannenbaum, A. Yezzi, and O. Zeitouni), *Statistics and Analysis of Shapes*, edited by H. Krim and A. Yezzi, (ISBN 0817643761) Birkhauser, 2006, pp. 303–312.

11. "Integral Invariants and Shape Matching," (S. Manay, D. Cremers, B. Hong, A. Yezzi, and S. Soatto), *Statistics and Analysis of Shapes*, edited by H. Krim and A. Yezzi, (ISBN 0817643761) Birkhauser, 2006, pp. 137–166.

12. "4D Segmentation of Cardiac Data Using Active Surfaces with Spatiotemporal Shape Priors," (A. Abufadel, A. Yezzi, and R. Schafer), *Studies in Computational Intelligence: Applied Pattern Recog.*, vol. 91, edited by H. Bunke, A. Kandel, and M. Last, (ISBN 978-3-540-76830-2) Springer, 2008, pp. 77–100.

4.3 Refereed Publications

4.3.1 Refereed Journal Publications

1. "Conformal Curvature Flows: From Phase Transitions to Active Contours," (S. Kichenessamy, A. Kumar, P. Olver, A. Tannenbaum, and A. Yezzi), *Archive for Rational Mechanics and Analysis*, vol. 134, 1996, pp. 275–301.

2. "A Geometric Snake Model for Segmentation of Medical Imagery," (A. Yezzi, S. Kichenessamy, A. Kumar, P. Olver, and A. Tannenbaum), *IEEE Trans. Medical Imaging*, vol. 16, April 1997, pp. 199–209.

3. "Modified Curvature Motion for Image Smoothing and Enhancement," (A. Yezzi), *IEEE Trans. Image Processing*, vol. 7, March 1998, pp. 345–352.

4. "Curve Evolution Models for Real-Time Identification with Application to Plasma Etching," (J. Berg, A. Yezzi, and A. Tannenbaum), *IEEE Trans. Aut. Control*, vol. 44, Jan. 1999, pp. 99–102.

5. "Curve Evolution Implementation of the Mumford-Shah Functional for Image Segmentation, Denoising, Interpolation, and Magnification," (A. Tsai, A. Yezzi, and A. Willsky), *IEEE Trans. Image Processing*, vol. 10, Aug. 2001, pp. 1169–1186.

6. "A Fully Global Approach to Image Segmentation via Coupled Curve Evolution Equations," (A. Yezzi, A. Tsai, and A. Willsky), *J. Visual Communication and Image Representation (Special Issue: Partial Differential Equations in Image Processing, Computer Vision, and Computer Graphics)*, vol. 13, March/June 2002, pp. 195–216.

7. "Stochastic Differential Equations and Geometric Flows," (G. Unal, H. Krim, and A. Yezzi), *IEEE Trans. Image Processing*, vol. 11, Dec. 2002, pp. 1405–1416.

8. "A Shape-Based Approach to the Segmentation of Medical Imagery Using Level Sets," (A. Tsai, A. Yezzi, W. Wells, C. Tempany, D. Tucker, A. Fan, E. Grimson, and A. Willsky), *IEEE Trans. Medical Imaging*, vol. 22, Feb. 2003, pp. 137–154.

9. "Stereoscopic Segmentation," (A. Yezzi and S. Soatto), *International J. of Computer Vision*, vol. 53, June 2003, pp. 31–43.

10. "A Variational Framework for Integrating Segmentation and Registration through Active Contours," (A. Yezzi, L. Zollei, and T. Kapur), *J. of Medical Image Analysis*, vol. 7, June 2003, pp. 171–185.

11. "Deformotion: Deforming Motion, Shape Average, and Joint Registration and Approximation of Structures in Images," (A. Yezzi and S. Soatto), *International J. of Computer Vision*, vol. 53, July 2003, pp. 153–167.

12. "An Eulerian PDE Approach for Computing Tissue Thickness," (A. Yezzi and J. Prince), *IEEE Trans. on Medical Imaging*, vol. 22, Oct. 2003, pp. 1332-1339.

13. "Anti-Geometric Diffusion for Adaptive Thresholding and Fast Segmentation," (S. Manay and A. Yezzi), *IEEE Trans. Image Processing*, vol. 12, Nov. 2003, pp. 1310–1323.

14. "Estimation of 3D Surface Shape and Smooth Radiance from 2D Images," (H. Jin, A. Yezzi, R. Tsai, L. Cheng, and S. Soatto), *Journal of Scientific Computing*, vol. 19, Dec. 2003, pp. 267–292.

15. "Texture Transfer During Shape Transformation," (H. Dinh, A. Yezzi, and G. Turk), *Transactions on Graphics*, vol. 24, April 2005, pp. 289–310.

16. "Information-Theoretic Active Polygons for Unsupervised Texture Segmentation," (G. Unal, A. Yezzi, and H. Krim), *Int. Journal of Computer Vision*, vol. 62, May 2005, pp. 199–220.

17. "Fast Incorporation of Optical Flow into Active Polygons," (G. Unal, H. Krim, and A. Yezzi), *IEEE Trans. Image Processing*, vol. 14, June 2005, pp. 745–759.

18. "Multiview Stereo Reconstruction of Dense Shape and Complex Appearance," (H. Jin, S. Soatto, and A. Yezzi), *Int. Journal of Computer Vision*, vol. 63, July 2005, pp. 175–189.

19. "A Nonparametric Statistical Method for Image Segmentation Using Information Theory and Curve Evolution," (J. Kim, J. Fisher, A. Yezzi, M. Cetin, and A. Willsky), *IEEE Trans. Image Processing*, vol. 14, Oct. 2005, pp. 1486–502.

20. "Region Matching with Missing Parts," (A. Duci, A. Yezzi, S. Mitter, and S. Soatto), *Image and Vision Computing*, vol. 24, March 2006, pp. 271–277.

21. "Integral Invariants for Shape Matching," (S. Manay, D. Cremers, B.W. Hong, A. Yezzi, and S. Soatto), *Trans. Pattern Anal. and Machine Intell.*, vol. 28, Oct. 2006, pp. 1602–1618.

22. "Fast Surface Segmentation Guided by User Input Using Implicit Extension of Minimal Paths," (R. Ardon, L. Cohen, and A. Yezzi), *Journal of Mathematical Imaging and Vision* (special issue: Mathematics and Image Analysis), vol. 25, Oct. 2006, pp. 289–305.

23. "Harmonic Embeddings for Linear Shape Analysis," (A. Duci, A. Yezzi, S. Soatto, and K. Rocha), *Journal of Mathematical Imaging and Vision* (special issue: Mathematics and Image Analysis) vol. 25, Oct. 2006, pp. 341–352.

24. "3D Brain Segmentation Using Dual-Front Active Contours with Optional User Interaction," (H. Li, A. Yezzi, and L. Cohen), *Int. Journal of Biomedical Imaging* (special issue: Recent Advances in Mathematical Methods for the Analysis of Biomedical Images) vol. 2006, Article ID 53186, 2006, pp. 1–17.

25. "Local or Global Minima: Flexible Dual-Front Active Contours," (H. Li and A. Yezzi), *Trans. Pattern Anal. Machine Intell.*, vol. 29, Jan. 2007, pp. 1–14.

26. "A New Implicit Method for Surface Segmentation by Minimal Paths in 3D Images," (R. Ardon, L. Cohen, and A. Yezzi), *Journal of Applied Mathematics and Optimization*, vol. 55, March 2007, pp. 127–144.

27. "Global Regularizing Flows with Topology Preservation for Active Contours and Polygons," (G. Sundaramoorthi and A. Yezzi), *IEEE Trans. Image Processing*, vol. 16, March 2007, pp. 803–812.

28. "A Hybrid Eulerian-Lagrangian Approach for Thickness, Correspondence, and Gridding of Annular Tissues," (K. Rocha, A. Yezzi, and J. Prince), *IEEE Trans. Image Processing*, vol. 16, March 2007, pp. 636–648.

29. "Sobolev Active Contours," (G. Sundaramoorthi, A. Yezzi, and A. Mennucci), *Int. J. of Computer Vision*, vol. 7, July 2007, pp. 345–366.

30. "A Variational Approach to Problems in Calibration of Multiple Cameras," (G. Unal, A. Yezzi, S. Soatto, and G. Slabaugh), *Trans. Pattern Anal. Machine Intell.*, vol. 29, August 2007, pp. 1322–1338.

31. "Tracking Deforming Objects Using Particle Filtering for Geometric Active Contours," (Y. Rathi, N. Vaswani, A. Tannenbaum, and A. Yezzi), *Trans. Pattern Anal. Machine Intell.*, vol. 29, August 2007, pp. 1470–1475.

32. "Vessels as 4-D Curves: Global Minimal 4-D Paths to Extract 3-D Tubular Surfaces and Centerlines," (H. Li and A. Yezzi), *Trans. Medical Imaging* (special issue: Mathematical Modeling in Biomedical Image Analysis), vol. 26, Sept. 2007, pp. 1213–1223.

33. "Mumford-Shah on the Move: Region-based Segmentation on Deforming Manifolds with Application to 3-D Reconstruction of Shape and Appearance from Multiview Images," (H. Jin, A. Yezzi, and S. Soatto), *J. Mathematical Imaging and Vision*, vol. 29, Nov. 2007, pp. 219–234.

34. "3-D Reconstruction of Shaded Objects from Multiple Images Under Unknown Illumination," (H. Jin, D. Cremers, D. Wang, E. Prados, A. Yezzi, and S. Soatto), *Int. J. of Computer Vision*, vol. 76, March 2008, pp. 245–256.

35. "Coarse-to-Fine Segmentation and Tracking Using Sobolev Active Contours," (G. Sundaramoorthi, A. Yezzi, and A. Mennucci), *IEEE Trans. Pattern Anal. Machine Intell.*, vol. 30, May 2008, pp. 851–864.

36. "Dynamic shape and appearance modeling via moving and deforming layers" (J. Jackson, A. Yezzi, and S. Soatto), *Int. J. of Computer Vision*, vol. 79, Aug. 2008, pp. 71–84.

37. "Properties of Sobolev-type metrics in the space of curves," (A. Mennucci, A. Yezzi and G. Sundaramoorthi), *Interfaces and Free Boundaries*, vol. 10, Oct/Nov. 2008, pp. 423–445.

38. "Joint brain parameteric T1-map segmentation and RF inhomogeneity calibration," (P.F. Chen, G. Steen, A. Yezzi and H. Krim), *Int. J. of Biomedical Imaging*, vol. 2009 (Article ID 269525), 2009, pp. 1–14.

39. "New Possibilities with Sobolev Active Contours," (G. Sundaramoorthi, A. Yezzi, A. Mennucci, and G. Sapiro), *Int. Journal Computer Vision*, vol. 84, Aug. 2009, pp. 113–129.

40. "3D Topology Preserving Flows for Viewpoint-Based Cortical Unfolding," (K. Rocha, G. Sundaramoorthi, A. Yezzi, and J. Prince) *Int. Journal Computer Vision*, vol. 85, Dec. 2009, pp. 223–236.

41. "A Geometric Approach to Joint 2D Region-Based Segmentation and 3D Pose Estimation Using a 3D Shape Prior," (S. Dambreville, R. Sandhu, A. Yezzi, and A. Tannenbaum) *SIAM J. Imaging Sciences*, vol. 3, March 2010, pp. 110–132.

42. "Deform PF-MT: Particle Filter With Mode Tracker for Tracking Nonaffine Contour Deformations," (N. Vaswani, Y. Rathi, A. Yezzi, and A. Tannenbaum), *IEEE Trans. Image Processing*, vol. 19, April 2010, pp. 841–857.

43. "Image Sharpening via Sobolev Gradient Flows," (J. Calder, A. Mansouri, and A. Yezzi), *SIAM J. on Imaging Sciences*, vol. 3, 2010, pp. 981–1014.

44. "A Nonrigid Kernel Based Framework for 2D/3D Pose Estimation and 2D Image Segmentation," (R. Sandhu, S. Dambreville, A. Yezzi, and A. Tannenbaum), *IEEE Trans. Pattern Anal. and Machine Intell.*, vol. 33, June 2011, pp. 1098–1115.

45. "New Possibilities in Image Diffusion and Sharpening via High-Order Sobolev Gradient Flows," (J. Calder, A. Mansouri, and A. Yezzi), *Journal of Mathematical Imaging and Vision*, vol. 40, July 2011, pp. 248258.

46. "A New Geometric Metric in the Space of Curves, and Applications to Tracking Deforming Objects by Prediction and Filtering," (G. Sundaramoorthi, A. Mennucci, S. Soatto, and A. Yezzi), *SIAM J. on Imaging Sciences*, vol. 4, 2011, pp. 109–145.

47. "A Variational Stereo Method for the Three-Dimensional Reconstruction of Ocean Waves," (G. Gallego, A. Yezzi, F. Fedele, and A. Benetazzo), *IEEE Trans. Geoscience and Remote Sensing*, vol. 49, Nov. 2011, pp. 4445–4457.

48. "Euler characteristics of oceanic sea states," (F. Fedele, G. Gallego, A. Yezzi, A. Benetazzo, L. Cavaleri, M. Sclavo, and M. Bastianini), *Mathematics and Computers in Simulation*, vol. 82, Feb. 2012, pp. 1102–1111.

49. "Geometric Seismic Wave Inversion by the Boundary Element Method," (S. Bignardi, F. Fedele, A. Yezzi, G. Rix, and G. Santarato), *Bull. Seismological Society of America*, vol. 102, Apr. 2012, pp. 802–811.

50. "Offshore Stereo Measurements of Gravity Waves," (A. Benetazzo, F. Fedele, G. Gallego, P.C. Shih, and A. Yezzi), *Coastal Engineering*, vol. 64, June 2012, pp. 127–138.

51. "Detecting Curves with Unknown Endpoints and Arbitrary Topology Using Minimal Paths," (V. Kaul, A. Yezzi, and Y. Tsai) *IEEE Trans. Pattern Anal. Machine Intell.*, vol. 34, Oct. 2012, pp. 1952–1965.

52. "Translation, Scale, and Deformation Weighted Polar Active Contours," (M. Baust, A. Yezzi, G. Unal, and N. Navab), *J. Mathematical Imaging and Vision*, vol. 44, Nov. 2012, pp. 354–365.

53. "Vessel Tractography Using an Intensity Based Tensor Model with Branch Detection," (S. Cetin, A Demir, A. Yezzi, M. Degertekin, and G. Unal), *IEEE Trans. Medical Imaging*, vol. 32, Feb. 2013, pp. 348–363.

54. "Automating the Crack Map Detection Process for Machine Operated Crack Sealer," (Y. Tsai, V. Kaul, and A. Yezzi), *Automation in Construction*, vol. 31, May 2013, pp. 10–18

55. "Numerical Conditioning Problems and Solutions for Nonparametric i.i.d. Statistical Active Contours," (H. Wu, V. Appia, and A. Yezzi) *IEEE Trans. Pattern Anal. Machine Intell.*, vol. 35, June 2013, pp. 1298–1311.

56. "Surface Waves in Laterally Heterogenous Media," (S. Bignardi, F. Fedele, G. Santarato, A. Yezzi, and G. Rix) *J. Engineering Mechanics*, vol. 139, Sep. 2013, pp. 1158–1165.

57. "Symmetric Fast Marching Schemes for Better Numerical Isotropy," (V. Appia and A. Yezzi), *IEEE Trans. Pattern Analysis and Machine Intell.*, vol. 35, Sep. 2013, pp. 2298–2304.

58. "Variational Image Denoising Based on Auto-Correlation Whiteness," (A. Lanza, S. Morigi, F. Sgallari, and A. Yezzi), *SIAM J. Imaging Sciences*, vol. 6, Oct. 2013, pp. 1931–1955.

59. "Space-time Measurements of Oceanic Sea States," (F. Fedele, A. Benetazzo, G. Gallego, P.C. Shih, A. Yezzi, F. Barbariol, and F. Ardhuin) *J. Ocean Modeling*, special issue: Ocean Surface Waves, vol. 70, Oct. 2013, pp. 103–115.

60. "Automatic Delineation of the Myocardial Wall from CT Images via Shape Segmentation and Variational Region Growing," (L. Zhu, Y. Gao, V. Appia, A. Yezzi, C. Arepalli, T. Faber, A. Stillman, and A. Tannenbaum), *IEEE Trans. Biomedical Engineering*, vol. 60 Oct. 2013, pp. 2887–2895.

61. "Variational Stereo Imaging of Oceanic Waves with Statistical Constraints," (G. Gallego, A. Yezzi, F. Fedele, and A. Benetazzo), *IEEE Tran. Image Processing*, vol. 22, Nov. 2013, pp. 4211–4223.

62. "Automatic Segmentation of the Left Atrium from MR Images via Variational Region Growing With a Moments-Based Shape Prior," (L. Zhu, Y. Gao, A. Yezzi, and A. Tannenbaum), *IEEE Trans. Image Processing*, vol. 22, Dec. 2013, pp. 5111–5122.

63. "Automatic Detection of Left and Right Ventricles from CTA Enables Efficient Alignment of Anatomy with Myocardial Perfusion Data," (M. Piccinelli, T. Faber, C. Arepalli, V. Appia, J. Vinten-Johansen, S. Schmarkey, R. Folks, E. Garcia, and A. Yezzi) *Journal of Nuclear Cardiology*, vol. 21, Feb. 2014, pp. 96–108.

64. "A Complete System for Automatic Extraction of Left Ventricular Myocardium from CT Images Using Shape Segmentation and Contour Evolution," (L. Zhu, Y. Gao, V. Appia, A. Yezzi, C. Arepalli, T. Faber, A. Stillman, and A. Tannenbaum), *IEEE Trans. Image Processing*, vol. 23, Mar. 2014, pp. 1340–1351.

65. "Efficient Foraging Strategies in Multi-Agent Systems through Curve Evolutions", (M. Haque, A. Rahmani, M. Egerstedt, and A. Yezzi), *IEEE Trans. Automatic Control*, vol. 59, Apr. 2014, pp. 1036–1041.

66. "Variational Image Denoising While Constraining the Distribution of the Residual," (A. Lanza, S. Morigi, F. Sgallari, and A. Yezzi), *Electronic Transactions on Numerical Analysis*, vol. 42, May 2014, pp. 64–84.

67. "Tracking using Motion Estimation with Physically Motivated Inter-Region Constraints," (O. Arif, G. Sundaramoorthi, B. Hong, and A. Yezzi) *IEEE Trans. Medical Imaging*, vol. 33, Sep. 2014, pp. 1875–1889.

68. "Adjoint Active Surfaces for Localization and Imaging," (D. Cook, M. Mueller, F. Fedele, and A. Yezzi) *IEEE Trans. Image Processing*, vol. 24, Jan. 2015, pp. 316–331.

69. "A Compact Formula for the Derivative of a 3-D Rotation in Exponential Coordinates," (G. Gallego and A. Yezzi) *J. Mathematical Imaging and Vision*, vol. 51, Mar. 2015, pp. 378–384.

Pending Submissions

70. "Multiplayer Pursuit Evasion Games in 3-Dimensional Flow Fields" (W. Sun, P. Tsiotras, and A. Yezzi), *IEEE Trans. Robotics*, submitted July 22, 2017 (paper number 17-0379).

4.3.2 Refereed Conference Proceedings (see footnote regarding titles in bold)

1. "Gradient Flows and Geometric Active Contour Models," (S. Kichenessamy, A. Kumar, P. Olver, A. Tannenbaum, and A. Yezzi), **Proc. of Intl. Conf. Computer Vision**, June 1995, pp. 810–815.

2. "Active Contours for Visual Tracking: A Geometric Gradient Based Approach," (A. Kumar, A. Yezzi, S. Kichenassamy, P. Olver, and A. Tannenbaum), *Proc. of IEEE Conference on Decision and Control*, vol. 4, December 1995, pp. 4041–4046.

3. "A Gradient Surface Approach to 3D Segmentation," (A. Yezzi and A. Tannenbaum), *Proc. of Imaging Science and Technology*, May 1996.

4. "Surface Evolution, Conformal Metrics, 3D Contour Finding, and 3D Segmentation," (A. Yezzi and A. Tannenbaum), *Proc. of MTNS*, 1996.

5. "Phase Transitions, Curve Evolution, and the Control of Semiconductor Manufacturing Processes," (J. Berg, A. Yezzi, and A. Tannenbaum), *Proc. of IEEE Conf. on Decision and Control*, vol. 3, December 1996, pp. 3376–3381.

6. "Toward Real-Time Estimation of Surface Motion: Isotropy, Anisotropy, and Self-Calibration," (J. Berg, A. Yezzi, and A. Tannenbaum), *Proc. of IEEE Conf. on Decision and Control*, vol. 1, December 1997, pp. 860–865.

7. "Projected Mean Curvature Smoothing for Vector-Valued Imagery," (A. Yezzi), *Proc. of IEEE Southwest Symposium on Image Anal. and Intell.*, April 1998, pp. 121–126.

8. "A Statistical Approach to Snakes for Bimodal and Trimodal Imagery," (A. Yezzi, A. Willsky, and A. Tsai), **Proc. of Intl. Conf. Computer Vision**, vol. 2, September 1999, pp. 898–903.

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108. "Shape-Tailored Features and their Application to Texture Segmentation," (N. Khan, M. Algarni, A. Yezzi, and G. Sundaramoorthi) **IEEE Conf. Computer Vision and Pattern Recongition**, June 2015, pp. 3890–3899.

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110. "Integrated 3D Anatomical Model for Automatic Myocardial Segmentation in Cardiac CT Imagery," (N. Dahiya, A. Yezzi, M. Piccinelli, and E. Garcia), *VipIMAGE Conference on Computational Vision and Medical Image Processing; Special Session: Shape Analysis in Medical Imaging, from Math to Clinics*, to appear Oct. 2017.

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4.4 Other Publications

4.4.1 Invited Papers

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2. "A PDE Approach to Image Smoothing and Magnification using the Mumford-Shah Functional," (A. Tsai, A. Yezzi, and A. Willsky), *Proc. of Asilomar (Special Session: PDE's and Diffusion for Signal Processing)*, vol. 1, October 2000, pp. 473–477.

3. "On the Relationship Between Parametric and Geometric Active Contours," (C. Xu, A. Yezzi, and J. Prince), *Proc. of Asilomar (Special Session: PDE's and Diffusion for Signal Processing)*, vol. 1, October 2000, pp. 483–489.

4. "Shape Information in Active Contour Models for Image Segmentation," (A. Tsai, A. Yezzi, W. Wells, C. Tempany, D. Tucker, A. Fan, E. Grimson, and A. Willsky), *Proc. of Joint Statistics Meeting*, June 2001.

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9. "4D Segmentation of Cardiac Data Using Active Contours with Spatiotemporal Shape Priors," (A. Yezzi, A. Abufadel, and R. Schafer), *Proc. of SPIE*, (Computational Imaging Conference: Special Session on Segmentation and Shape Analysis), vol. 6498, San Jose, CA, Jan-Feb, 2007, pp. 64980D:1–12.

10. "Fast Mumford-Shah Segmentation Using Image Scale Space Bases," (C. Alvino and A. Yezzi), *Proc. of SPIE*, (Computational Imaging Conference: Special Session on Segmentation and Shape Analysis), vol. 6498, San Jose, CA, Jan-Feb, 2007, pp. 64980F:1–10.

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4.4.2 Other

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2. "Automated left ventricular measurement during real-time MRI," (L. Zhao, C. Hardy, S. Warfield, A. Tannenbaum, A. Yezzi, L. Panych, R. Kikinis, S. Solomon, S. Maier, and F. Jolesz), *Proc. of ISMRM*, 2000.

3. "Fusion of Visible and X-ray Sensing Modalities for the Enhancement of Bone Detection in Poultry Products," (G. Vachtsevanos, W. Daley, B. Heck, A. Yezzi, and Y. Ding), *Proc. of SPIE*, November 2000, pp. 102–110.

4. "Total Variational Based Optical Flow for Cardiac Wall Motion Tracking," (A. Kumar, S. Haker, A. Stillman, C. Curry, D. Giddens, A. Tannenbaum, and A. Yezzi), *Proc. of SPIE*, San Diego, February 2001, 1550–1553.

5. "Visual tracking and object recognition," (A. Tannenbaum, A. Yezzi, and A. Goldstein), *Proceedings of Nonlinear Control Systems*, St. Petersburg, July 2001, pp. 1539–1542.

6. "Hybrid Geodesic Region-Based Curve Evolutions for Image Segmentation," (S. Lankton, D. Nain, A. Yezzi, and A. Tannenbaum) *SPIE Medical Imaging*, (Physics of Medical Imaging 2007), vol. 6510, Feb. 2007, pp. 65104U:1–10.

7. "Fast Approximate Curve Evolution," (J. Malcolm, Y. Rathi, A. Yezzi, and A. Tannenbaum) *SPIE Medical Imaging*, (Real-Time Image Processing 2008), vol. 6811, Feb. 2008, pp. 68110L:1–8.

8. "Fast Approximate Surface Evolution in Arbitrary Dimension," (J. Malcolm, Y. Rathi, A. Yezzi, and A. Tannenbaum) *SPIE Medical Imaging*, (Progress in Biomedical Optics and Imaging 2008) vol. 6914, Feb. 2008, pp. 69144C:1–9.

9. "Euler characteristics and maximima of oceanic sea states via a variational wave acquisition stereo system," (F. Fedele, G. Gallego, A. Benetazzo, and A. Yezzi) *Convegno Nazionale di Idraulica e Costruzioni Idrauliche*, Perugia, Sept. 2008.

10. "Automatic the Crack Map Detection Process for Machine Operated-Crack Sealer," (Y. Tsai, V. Kaul, and A. Yezzi), *Proc. of Trasportation Research Board Annual Meeting* Washington D.C., Jan. 2011.

11. "A Simple Shape Prior Model for Iris Image Segmentation," (D. Bishop and A. Yezzi) *Proc. of SPIE*, vol. 8029, Apr. 2011, pp. 80291T:1–11.

4.5 Other Scholarly Accomplishments

1. *Patent:* 6,535,623 B1: "Curvature Based System for the Segmentation and Analysis of Cardiac Magnetic Resonance Images," (co-inventors A. Yezzi and A. Tannenbaum), issued March 18, 2003.

2. *Patent:* 6,721,450: "Curvature Based System for the Segmentation and Analysis of Image Data," (co-inventors A. Yezzi and A. Tannenbaum), issued April 13, 2004.

3. *Patent-Pending:* U.S. Patent Application No: 15/129,655, "Systems and Methods for Identifying Traffic Control Devices and Testing the Retroreflectivity of the Same," (co-inventors C. Ai, Y. Tsai, Z. Wang, and A. Yezzi), filing date September 27, 2016.

5 Service

5.1 Professional Contributions

1. Member of IEEE (and IEEE Signal Processing Society), 2000–2012.

2. Organized Special Session, "PDE's for Signal and Image Processing," for Asilomar Conference in Pacific Grove, CA, October 2000.

3. Co-organized Special Minisymposium, "Mathematical Methods in Computer Vision," for Fields Institute Workshop in Toronto, ON, August 2001.

4. Organized Special 2-Part Session, "Multi-Image Processing: From Stereo to Video," for 3DPVT Conference in Padua, Italy, June 2002.

5. Program Committee for *Second IEEE Workshop on Variational, Geometric, and Level Set Methods in Computer Vision*, Nice, France, October 2003.

6. Program Committee for *Second SIAM Imaging Science Conference*, Salt Lake City, Utah, May 2004.

7. Program Committee for *IEEE Conference on Computer Vision and Pattern Recognition*, Washington DC, June/July 2004.

8. Program Committee for *Energy Minimization Methods in Computer Vision and Pattern Recog.* St. Augustine, FL, Nov. 2005.

9. External Reviewer for Review of Interdepartmental Cybernetics Program at UCLA, April 2006.

10. Program Committee for *IEEE Conference on Computer Vision and Pattern Recognition*, New York, NY, June 2006.

11. Program Committee for *Workshop on Mathematical Methods for Biomedical Image Analysis*, New York, NY, June 2006.

12. Program Committee for *Scale Space and Variational Methods Conference*, Ischia, Italy, May/June 2007.

13. Program Committee for *IEEE Conference on Computer Vision and Pattern Recognition* Minneapolis, MN, June 2007.

14. Program Committee for *IEEE Conference on Computer Vision and Pattern Recognition* Minneapolis, MN, June 2007.

15. Reviewer for *IEEE Transactions on Pattern Analysis and Machine Intelligence* (since 1998)

16. Reviewer for *IEEE Transactions on Signal Processing* (since 1999)

17. Reviewer for *International Journal of Computer Vision* (since 1999)

18. Reviewer for *Journal of Visual Communication and Image Rep.* (since 2000)

19. Reviewer for *IEEE Transactions on Image Processing* (since 2000)

20. Reviewer for *Journal of Computer Vision and Image Understanding* (since 2000)

21. Reviewer for *SIAM Journal on Numerical Analysis* (since 2000)

22. Reviewer for *IEEE Transactions on Medical Imaging* (since 2001)

23. Reviewer for *Medical Image Analysis* (since 2003)

24. Reviewer for *SIAM Journal on Applied Mathematics* (since 2003)

25. External international lecturer, International Engineering Master's Program, University of Bologna, Oct 2009.

26. External international lecturer, International Engineering Master's Program, University of Bologna, Sep/Oct 2010.

27. External international lecturer, International Engineering Master's Program, University of Bologna, Sep/Oct 2011.

28. External international lecturer, International Engineering Master's Program, University of Bologna, Sep/Oct 2013.

29. Board member (Collegio dei Docenti) for the University Campus Bio-Medico of Rome, Italy, Ph.D. program in Science and Technology for Humans and the Environment ("Dottorato di Ricerca in Scienze ed Ingegneria per l'Uomo e l'Ambiente"), since March, 2017.

5.2 Campus Contributions

1. ECE Student/Faculty Committee (Fall 1999 – Spring 2003)

2. Co-chair of ECE UROP Subcommittee (Fall 2001 – Spring 2003)

3. Developed and graded Systems and Control problems for the Ph.D. written preliminary examination for academic years 1999/2000 and 2002/2003.

4. Service on various student M.S. and Ph.D. committees within the School of Electrical and Computer Engineering, the College of Computing, the School of Mathematics, and the Department Biomedical Engineering (Fall 1999 – Present).

5. Georgia Tech/Emory Biomedical Engineering Program Faculty adjunct appointment (Aug. 2001 – Aug. 2005), involved both in teaching, curriculum development, and recruiting.

6. Served on the Oral Qualifying Exam Committees for Ph.D. Bioengineering Candidates (Summer 2003).

7. ECE Graduate Recruitment Committee (2003–2005)

8. Member of Georgia Research Alliance Working Group on Bioscience Strategy (2006)

9. ECE Faculty Recruitment Committee (2006–2007)

10. Developed Dual MS program in ECE between Georgia Tech and Politecnico di Torino in Italy (BOR approval Summer 2007).

11. ECE Graduate Curriculum Committee (2008–present)

12. Developed Joint PhD program in ECE between Georgia Tech and Politecnico di Torino in Italy (BOR approval Fall 2011).

13. Developed Joint PhD program in ECE between Georgia Tech and Politecnico di Milano in Italy (BOR approval Fall 2011).

14. Institute Reappointment Promotion and Tenure Committee (2013/14 and 2014/15).

5.3 Other Contributions

1. Consultant for Aura Ceramics Inc., New Hope, Minnesota; September 1995 – June 1996.

2. Consultant for Lucent Technologies (Bell Laboratories), Murray Hill, New Jersey; December 15, 1996 – January 15, 1997.

3. Consultant for 3M Corporation, St. Paul, Minnesota; January 1996 – December 1998.

4. Consultant for Picker International, Cleveland, Ohio; January 1997 – February 1998.

5. Consultant for General Electric Medical Corporation, Milwaukee, Wisconsin; January 1997 – June 2000.

6. Consultant for Visualization Technologies Inc., Wilmington, Massachusetts; January 2000 – March 2002.

7. Consultant for Corghi International, Italy; January 2001 – December 2002.

8. Consultant for General Electric Medical Systems, Wilmington, Massachusetts; June 2002 – Dec. 2011.

9. Consultant for MZA March 2006 – April 2008.

10. Founded company "Vintinura Imaging Inc." to provide image processing and computer vision services and products. May 2012 – December 2014.

11. Consultant for Children's Healthcare of Atlanta, Atlanta, Georgia; December 2014 – December 2015.

6 Grants and Contracts

6.1 Previously Funded

1. **FoodPack E21-101 2100101** "Automatic Inspection of Deboning Process," (G. Vachtsevanos [PI], A. Yezzi [Co-PI], B. Heck [Co-PI], and W. Daley [Co-PI]): $83,722, 6/15/00 – 6/14/01.

2. **Hewlett-Packard E-21-H26 2106H26** "GT & HP Research Project Y2003," (R. Schafer [PI], A. Yezzi[Co-PI], V. Mooney [Co-PI], and D. Anderson [Co-PI]), $241,000, 1/01/04 – 12/31/04.

3. **NSF E-21-6LG 21066LG** "A Variational Framework for Reconstructing Complex 3D Shape and Photometry from Multiple Images," (Anthony Yezzi [PI] subcontracted through UCLA). $217,258, 9/1/02 – 8/31/05.

4. **Hewlett-Packard E-21-H26 2106H26** "GT & HP Research Project Y2004," (R. Schafer [PI], A. Yezzi[Co-PI], P. Hasler [Co-PI], M. Hayes [Co-PI], and D. Anderson [Co-PI]), $249,704, 1/01/05 – 12/31/05.

5. **NIH RO1-HL-68904** "Detecting Changes in Myocardial Perfusion and Function," (Anthony Yezzi [PI] subcontracted through Emory University. $300,000, 6/1/02 – 5/31/07.

6. **NSF (CAREER) CCR-0133736** "Unifying Segmentation and Other Image Processing Problems via Variational PDE's," (Anthony Yezzi [PI]). $350,000, 6/1/02 – 5/31/08.

7. **NIH R01-NS-037747** "Automated 3D Analysis of Cortical Geometry in MR Images," (Anthony Yezzi, [PI]), subcontracted through Johns Hopkins University. $350,000, 1/01/03 – 12/31/08.

8. **AFOSR (MURI) E-16-V91 1606V91** "Active-Vision Control Systems for Complex Adversarial 3D Environments," (E. Johnson [PI], A. Yezzi [Co-PI], A. Calise [Co-PI], A. Tannenbaum[Co-PI], S. Soatto [Co-PI], G. Barbastathis [Co-PI]), $5,000,000, 5/03 – 4/09.

9. **Siemens Corporate Research**, "Plaque Analysis from CTA Data," (A. Yezzi and A. Tannenbaum) $25,000, 7/07 – 6/08.

10. **EmTechBio** "Automatic Ventricular Boundary Detection from Cardiac CT," (A. Yezzi [PI]) $50,001, 6/08–6/09;

11. **Turner Foundation 21058B8**, "GT/Torino Dual Degree," (A. Yezzi [PI]), $25,000, 6/08.

12. **NSF CCF-0728911** "New Directions in Active Contours by Reformulating Geometric Gradients," (A. Yezzi [PI]), $250,230, 6/1/07–12/31/11.

13. **NIH R01-HL-085417** "3D Fusion and Visualization of Quantified Cardiac CTCA and Nuclear Profusion," (A. Yezzi [PI] subcontracting to Emory University) $194,438, 6/1/08–5/31/12.

14. **FIPSE (Dept. of Education)** "ATLAS-Atlantic Masters in Electrical-Computer Engineering and Computer Science," (M. McCracken [PI] and A. Yezzi [co-PI]) $408,000, 9/1/07-8/31/12.

15. **NSF IIP-1265342** "I-Corps: A Clinician's Segmentation/Registration Tool" (A. Yezzi [PI]) $50,000, 10/1/12–3/31/13.

16. **AFOSR STTR (2106CRE) [with Vintinura Imaging Inc.]** "Physically Customized Deformotion Models for Electro-Optic Sensor Data," (A. Yezzi [PI]) $81,951, 4/15/2013–3/30/2014.

17. **US DOT (27266K6)** "Remote Sensing and GIS-enabled Asset Management System (Phase 2)," (Y. Tsai [PI], Zhaohua Wang [co-PI], A. Yezzi [co-PI], and James Lai [co-PI]), $1,519,082, (6/15/11–6/14/13).

18. **NSF CCMI-1068624 (27266K2)** "BEM Adjoint-based Active Surfaces for Next-Generation Surface Wave Testing," (F. Fedele [PI], A. Yezzi [co-PI], and G. Rixx [co-PI]) $300,000, 6/1/11–5/31/15.

19. **Texas Instruments (210568K)** "Algorithms for Stereo Reconstruction," (A. Yezzi [PI]) $50,000, 6/30/2011-6/30/2012

20. **NSF CCF-1347191 (2106CRW)** "Shape Based Tomographic Inversion for Maximal Geometric Resolution," (A. Yezzi [PI], F. Fedele [co-PI], and E. Miller [co-PI]) $300,000, 8/1/2013–7/31/2016.

21. **Coulter Foundation (2106DGP)** (A. Yezzi [PI]) "Clinical CMR Imaging Analysis and Decision Support Software," $51,984, 7/1/2015–6/30/2016

22. **Texas Instruments (2105AH2)** (A. Yezzi [PI]) "Temporal Dense Depth Imaging with a Single Radar," $60,070, 1/1/2015–12/31/2015

23. **Texas Instruments (2105AH2)** (A. Yezzi [PI]) "Temporal Dense Depth Imaging with a Single Radar (part 2)" $60,070, 1/1/2016–12/31/2016

6.2 Currently Funded

1. **NSF CCF-1526848 (2106DHO)** "CIF:Small:Geometric Variational Algorithms for Radiometric-Based Shape Reconstruction," (A. Yezzi [PI]]) $500,000, 8/1/15–7/31/18.

2. **Texas Instruments (210569F)** (A. Yezzi [PI]) "2D/3D Video Conversion," $50,000, 1/1/2017–12/31/2017

3. **Texas Instruments (2105AH2)** (A. Yezzi [PI]) "Temporal Dense Depth Imaging with a Single Radar (part 3)," $60,070, 1/1/2017–12/31/2017

7 Honors, Awards, and Distinctions

1. Golden Key National Honor Society.

2. Tau Beta Pi.

3. Eta Kappa Nu.

4. Graduated *Summa Cum Laude*
(both graduate and undergraduate, University of Minnesota)

5. University of Minnesota, EE Graduate School Fellowship.

6. AT&T Ph.D. Fellowship (sponsored by Bell Laboratories).

7. Outstanding Student Paper Award (CVPR Conference, Dec. 2001, with PhD student Andy Tsai)

8. National Science Foundation Faculty CAREER Award (2002).

9. International Visiting Professorship (2003/2004) at University of Dauphine, Paris, France.

10. Best Paper Honorable Mention Award (CVBIA Workshop during ICCV Conference, Oct. 2005, with post-doc Hua Li)

11. International Visiting Professorship (2005/2006) at University of Dauphine, Paris, France.

12. Best Numerical Project-Paper Award, (SSVM Conference, June 2007, with PhD student Ganesh Sundaramoorthi)

13. Invited international lecturer for University of Bologna's International Engineering Master's Program (Oct 2009, Sep/Oct 2010, Sep/Oct 2011, and Sep/Oct 2013)

14. Ken Byers Endowed Professorship (2012-2013), School of ECE, Georgia Tech.

15. Julian Hightower Endowed Chair (since 2013), School of ECE, Georgia Tech.

16. Fulbright Teaching and Research Award, University of Palermo, Italy, February-June, 2016.

17. Board member, University Campus Bio-Medico of Rome, Italy, Ph.D. program in Science and Technology for Humans and the Environment (since March, 2017)

18. Invited international lecturer for SIAM Summer School "Mathematics in Imaging Sciences" in conjunction with SIAM Conference of Imaging Science, Bologna, June 2018.