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EDUCATION

- Ph.D. (1988)** Electrical Engineering. University of Minnesota.
- M.S. (1986)** Electrical Engineering. University of Minnesota.
- B.S. (1977)** Electrical Engineering. University of Minnesota. With distinction.

ACADEMIC AND INDUSTRIAL EXPERIENCE

- 2008** Visiting Scholar, Department of Electrical Engineering and Computer Science, University of California, Berkeley.
- 2004-present** Professor, Department of Electrical Engineering, University of Hawaii at Manoa.
- 2002-2004** Professor and Chair, Department of Electrical Engineering, University of Hawaii at Manoa.
- 2000-2002** Adjunct Professor, Department of Computer and Information Science, Linköping University, Sweden.
- 1998-1999** Visiting Scholar, Department of Electrical Engineering, Linköping University, Sweden.
- 1991-2002** Professor (previously Assistant and Associate Professor), Department of Electrical and Computer Engineering, University of California, Davis. Member of the Computer Science, Applied Mathematics, Biomedical Engineering and Medical Informatics Graduate Groups.
- 1989-1991** Assistant, Laboratoire de Traitement des Signaux, Département D'Électricité, École Polytechnique Fédérale de Lausanne, Switzerland. Head of image sequence processing research group.
- 1988-1989** Visiting Assistant Professor, Department of Electrical Engineering, University of Minnesota. Lecturer, digital signal processing.
- 1986-1988** Consultant to the Massachusetts Institute of Technology, Lincoln Laboratory. Development of algorithms for texture segmentation.
- 1984-1986** Senior Design Engineer, Astrocom Corporation, St. Paul, Minnesota. Design of analog and digital signal processing subsystems for digital data transmission.
- 1977-1983** Electrical Engineer at IBM Corporation; San Jose, California; Rochester, Minnesota; Boulder, Colorado. Design of head positioning control systems and disk file read/write channels, technology transfer from IBM Research, Zurich to IBM Boulder.

PROFESSIONAL AFFILIATIONS

IEEE, SIAM, AAUP, Tau Beta Pi, Eta Kappa Nu.

PROFESSIONAL ACTIVITIES

Invited Lecturer: Department of Computer Engineering and Informatics and the Electronics Laboratory, University of Patras, Patras, Greece (June 7-9, 1999); Department of Electronics and Computer Science, University of Algarve, Faro, Portugal (June 29 - July 6, 1999).

Editorial Board, *IEEE Signal Processing Magazine*. Co-General Chair, *2007 IEEE International Conference on Acoustics, Speech and Signal Processing*, Honolulu, Hawaii. Associate Editor, *Pattern Recognition*, 1994-2006. Guest Editor, *IEEE Journal on Selected Areas in Communications*, Special Issue on Very Low Bit-rate Video Coding (Part I, December 1997; Part II, January 1998). Member of the IEEE Circuits and Systems Technical Committee on Visual Signal Processing and Communications. Member of the International Society for Photogrammetry and Remote Sensing Intercommission Working Group V/III "Image Sequences." Member of the Gerson Lehrman Group Council of Technical Advisors.

Contributions to conducting and organizing conferences: Session Chair (Psychophysics and Visual System Coding), *1990 Picture Coding Symposium*, Cambridge, Massachusetts; Program Chair and Session Chair (Image Sequence Coding I), *Visual Communications and Image Processing '90*, Lausanne, Switzerland; Program Committee member and Session Chair (Motion Video Sequence Processing), *SID '92 International Symposium Seminar and Exhibition*, Boston, Massachusetts; Image Processing Subcommittee Chair, *SID '93*, Seattle, Washington; Image Processing Subcommittee Chair and Session Chair (Image Sequence Processing and Coding), *SID '94*, San Jose, California; Program Chair and Local Organization Committee member, *1994 Picture Coding Symposium*, Sacramento, California; Program Committee member, *1996 IEEE International Conference on Image Processing*, Lausanne, Switzerland; Program Committee member, *1996 SPIE International Photonics China Symposium (Electronic Imaging and Multimedia Systems)*, Beijing, China; Session Chair (Image and Video Processing I), *Thirtieth Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, California; Program Committee member, *Thirteenth International Conference on Digital Signal Processing*, Santorini, Greece; Program Committee member, *1997 IEEE International Conference on Image Processing*, Santa Barbara, California; Session Co-chair (Knowledge Representation and Recognition Strategies), *1997 IEEE International Conference on Systems, Man, and Cybernetics*, Orlando, Florida; Program Committee member, *1998 IEEE Southwest Symposium on Image Analysis and Interpretation*, Tucson, Arizona; Program Committee member, *1998 SPIE International Photonics China Symposium (Electronic Imaging and Multimedia Systems)*, Beijing, China; Program Committee member, *1999 IEEE International Conference on Image Processing*, Kobe, Japan; Program Committee member, *2000 IEEE International Conference on Multimedia and Expo*, New York City, New York. Program Committee member, *2000 IEEE Southwest Symposium on Image Analysis and Interpretation*, Tucson, Arizona. Program Committee member, *14th International Conference on Digital Signal Processing*, Santorini, Greece, 2002. Program Committee member, *2003 IEEE International Conference on Image Processing*, Barcelona, Spain. Program Committee member, *International Networking and*

Communications Conference, Lahore, Pakistan, 2004. Program Committee member and Session Chair, *2004 IEEE International Conference on Image Processing*, Singapore. Program Committee member, *2005 IEEE International Conference on Acoustics, Speech and Signal Processing*, Philadelphia, Pennsylvania. Program Committee member, *Fifteenth International Conference on Digital Signal Processing*, Cardiff, Wales, UK.

Reviewer for journals, publishers, funding and governmental agencies, including: the *IEEE Transactions on Signal Processing*; *IEEE Transactions on Image Processing*; *IEEE Transactions on Circuits and Systems for Video Technology*; *IEEE Transactions on Biomedical Engineering*; *IEEE Signal Processing Letters*; *Signal Processing*; *Image Communication*; *IEE Proceedings on Vision, Image and Signal Processing*; *Journal of Visual Communication and Image Representation*; *Image and Vision Computing*; *International Journal of Pattern Recognition and Artificial Intelligence*; *Computer Vision Graphics*, and *Image Processing: Computer Vision and Image Understanding*; *Computer Vision Graphics*, and *Image Processing: Graphical Models and Image Processing*; *Pattern Recognition*; *Journal of the Optical Society of America - A*; *Optical Engineering*; Academic Press; Swedish Research Council for Engineering Sciences; Research Grants Council of Hong Kong; the National Science Foundation (US); U.S. Civilian Research and Development Foundation Cooperative Grants Program, UC MICRO (State of California); and the U.S. Department of Agriculture. External Examiner for promotion to Professor, Catholic University of America; External Examiner for the granting of tenure, Catholic University of America. External Ph.D. Examiner, University of Waterloo, Waterloo, Canada. Nominated to serve as a consultant for the graduate program in Systems Design Engineering at the University of Waterloo.

HONORS AND AWARDS

Senior Member of the IEEE. Member Eta Kappa Nu, Tau Beta Pi.

RESEARCH INTERESTS

Signal, image and image sequence processing, multidimensional digital signal processing, and computer vision. Current activities are in the processing and coding of images and image sequences, the application of local frequency and local scale (wavelet) representations to phonocardiogram-based cardiac diagnosis, and the application of local frequency representations in image processing and computer vision. Other research interests include segmentation and segmentation-based algorithms for image, image sequence and volumetric data processing and analysis.

TEACHING ACTIVITIES

Courses Developed

EEC106 *Introduction to Image Processing and Computer Vision* (University of California, Davis. Senior design elective. Taught Fall 1993-97, 1999, 2001.)

EEC208 *Image Analysis and Computer Vision* (University of California, Davis. Graduate course. Spring 1991-93, 1996, 1998.)

EEC209 *Image Sequence Processing* (University of California, Davis. Graduate course. Spring 1995, 1997.)

EE616 *Digital Image Processing* (University of Hawaii, Manoa. Graduate course. Taught in Spring 2002 as EE693D *Special Topics in Communications* and Fall 2004-07.)

EE416 *Introduction to Digital Image Processing* (University of Hawaii, Manoa. Undergraduate de-

sign elective. Taught in Spring 2005 and Spring 2006 as EE491D *Special Topics in Communications* and Spring 2007.)

Other Courses Taught

EE5002 *Digital Signal Processing* (University of Minnesota. Upper division undergraduate course. Summer, Fall 1988.)

EEEC206 *Digital Image Processing* (University of California, Davis. Graduate course. Winter 1993-98, 2000-01)

EEEC150B *Introduction to Signals and Systems II* (University of California, Davis. Undergraduate design elective. Spring 1996, Fall 1999.)

ENG005 *Applications of Computers* (University of California, Davis. Undergraduate service course. Fall 1991, 1992, 1994, 1997; Winter 1992, 2000; Spring 1994, 1997, 2001.)

EE211 *Basic Circuit Analysis I* (University of Hawaii, Manoa. Undergraduate service course. Fall 2004, Spring 2005.)

EE415 *Digital Signal Processing* (University of Hawaii, Manoa. Undergraduate design elective. Fall 2005-07.)

Graduate Dissertations/Theses/Projects Supervised

Jeong Hwan Bang (M.S., Electrical Engineering, 2007, University of Hawaii, Manoa), Thesis: *Level-Weighted Wavelet Fusion: A Soft Decision Image Fusion Technique*.

Jeffrey Bloom (Ph.D. Electrical Engineering, 1999, University of California, Davis), Dissertation: *The Derivative of Gaussian Transform*.

Troy Chinen (M.S. Applied Mathematics, 1995, University of California, Davis), Thesis: *Fast Gabor Transforms*.

Joo Chong (M.S. Electrical Engineering, 2005, University of Hawaii, Manoa), Thesis: *Error Concealment for Image Sequences*.

Jay Dawes (M.S. Electrical Engineering, 1996, University of California, Davis), Thesis: *Space Varying Image Enhancement Using the Gabor Transform*.

Mu Feng (Ph.D. Electrical Engineering, 2005, University of Hawaii, Manoa), Dissertation: *Motion Estimation in the 3-D Gabor Domain*.

Iftekhhar Hussain (Ph.D. Electrical Engineering, 1995, University of California, Davis), Dissertation: *Segmentation-based Compression of Monochrome and Color Images*.

Clifton Kussmaul (Ph.D. Computer Science, 1998, University of California, Davis), Dissertation: *Spatial Frequency Representations for Three-Dimensional Surfaces*.

Xiangang Li (M.S. Electrical Engineering, 2004, University of Hawaii, Manoa), Thesis: *Image Coding using the Derivative of Gaussian Transform with Embedded Zerotree Quantization*.

Tang Chu Lin (M.S. Electrical Engineering, 2005, University of Hawaii, Manoa), Thesis: *Phonocardiogram Segmentation*.

Brian Moyle (M.S. Electrical Engineering, 1994, University of California, Davis), Project: *A Survey of Motion Analysis Techniques*.

Shawn Newsam (M.S. Electrical Engineering, 1996, University of California, Davis), Thesis: *Successive Still Image Transmission Based on Focus of Attention*.

Alex Soohoo (M.S. Electrical Engineering, 1994, University of California, Davis), Thesis: *Image*

and Image Sequence Compression Using the 2-D Gabor Transform.

Cheung Tam (M.S. Electrical Engineering, 1996, University of California, Davis), Thesis: *Motion Compensated Coding using the 2-D Gabor Transform.*

Gene Wu (Ph.D. Electrical Engineering, 1997, University of California, Davis), Dissertation: *Image Sequence Processing using 3-D Segmentation.*

Current Advisees

Paul Billings (Ph.D., Electrical Engineering, University of Hawaii, Manoa)

Tang Chu Lin (Ph.D., Electrical Engineering, University of Hawaii, Manoa)

Michael Reilly (Ph.D., Electrical Engineering, University of Hawaii, Manoa)

PUBLICATIONS

Journal Publications

1. T. R. Reed and H. Wechsler. Tracking of non-stationarities for texture fields. *Signal Processing*, 14(1):95–102, January 1988.
2. T. R. Reed and H. Wechsler. Segmentation of textured images and Gestalt organization using spatial/spatial-frequency representations. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 12(1):1–12, January 1990.
3. T. R. Reed, H. Wechsler, and M. Werman. Texture segmentation using a diffusion region growing technique. *Pattern Recognition*, 23(9):953-960, 1990.
4. G. Giunta, T. R. Reed, and M. Kunt. Image sequence coding using oriented edges. *Signal Processing: Image Communication*, 2(4):429–439, December 1990.
5. T. R. Reed and H. Wechsler. Spatial/spatial-frequency representations for image segmentation and grouping. *Image and Vision Computing*, 9(3):175–193, 1991.
6. P. Willemin, T. R. Reed, and M. Kunt. Image sequence coding by split and merge. *IEEE Transactions on Communications*, 39(12):1845–1855, December 1991.
7. V. R. Algazi, T. R. Reed, G. E. Ford, E. Maurincomme, I. Hussain, and R. Potharlanka. Perceptually transparent coding of still images. *IEICE Transactions on Communications, Special Issue on Video Coding and its Applications*, E75-B(5):340–348, May 1992.
8. T. R. Reed and J. M. H. du Buf. A review of recent texture segmentation techniques. *Computer Vision, Graphics, and Image Processing: Image Understanding*, 57(3):359–372, May 1993.
9. I. Hussain and T. R. Reed. Bond percolation-based Gibbs-Markov random fields for image segmentation. *IEEE Signal Processing Letters*, 2(8):145–147, August 1995.
10. T. R. Reed and A. E. Soohoo. Very-low-bit-rate coding of image sequences using the Gabor transform. *Journal of the Society for Information Display*, 3(2):77–81, September 1995.
11. I. Hussain and T. R. Reed. Compression of mixed images using an image representation formed via segmentation. *Journal of the Society for Information Display*, 3(3):109–118, December 1995.
12. J. A. Bloom and T. R. Reed. A Gaussian derivative-based transform. *IEEE Transactions on Image Processing*, 5(3):551–553, March 1996.
13. T. T. Chinen and T. R. Reed. A performance analysis of fast Gabor transform methods. *Computer Vision, Graphics, and Image Processing: Graphical Models and Image Processing*, 59(3):117–127, May 1997.
14. I. Hussain and T. R. Reed. A bond percolation-based model for image segmentation. *IEEE Transactions on Image Processing*, 6(12):1698-1704, December 1997.

15. T. R. Reed. On the computation of optical flow using the 3-D Gabor transform. Invited paper. *Multidimensional Systems and Signal Processing*, Special Issue on New Developments in Time-Frequency Analysis, 9(4):447-452, October 1998. Reprinted in L. Cohen and P. Loughlin, editors, *Recent Developments in Time-Frequency Analysis*, Kluwer Academic Publishers, 1998.
16. G. Wu and T. R. Reed. Image sequence processing using spatiotemporal segmentation. *IEEE Transactions on Circuits and Systems for Video Technology*, 9(5):798-807, August 1999.
17. T. R. Reed, N. E. Reed and P. Fritzson. Heart sound analysis for symptom detection and computer-aided diagnosis. *Simulation Modelling Practice and Theory*, Elsevier Science B.V., 12 (2004) 129-146.
18. M. Feng and T. R. Reed. Motion estimation in the 3-D Gabor domain. *IEEE Transactions on Image Processing*, 16(8):2038-2047, August 2007.

Books

1. T. R. Reed, editor. *Digital Image Sequence Processing, Compression, and Analysis*, CRC Press, Boca Raton, 2004.

Contributions to Reviewed Collections

1. T. R. Reed, P. Willemin, G. Giunta, T. Ebrahimi, F. Marqués, G. Campbell, and M. Kunt. Efficient representation and high-compression coding of image sequences. Invited paper. In A. Sood and H. Wechsler, editors, *Active Perception and Robot Vision - NATO ASI #83*, Springer-Verlag, 1992.
2. T. R. Reed. Local frequency representations for image sequence processing and coding. Invited paper. In A. B. Watson, editor, *Digital Images and Human Vision - Proceedings of the National Academy of Sciences/National Research Council Committee on Vision Workshop on Visual Factors in Electronic Image Communications*, MIT Press, 1993.

Book Chapters

1. T. R. Reed. Region growing using neural networks. In H. Wechsler, editor, *Neural Networks for Human and Machine Perception - Vol. 1*, Academic Press, Boston, pages 386–397, 1992.
2. T. R. Reed. Digital video processing. In V. Oklobdzija, editor, *The Computer Engineering Handbook*, CRC Press, Boca Raton, pages 28-1 through 28-30, 2001 and *The Computer Engineering Handbook, Second Edition: Digital Systems and Applications*, Taylor and Francis Group, LLC, Boca Raton, 2007. Also in R.C. Dorf, editor, *The Electrical Engineering Handbook, Third Edition: Broadcasting and Optical Communication Technology*, CRC Press, Boca Raton, 2006.

Guest Editorials

1. K. Enami, A. Krikelis, and T. R. Reed. Guest editorial: Very low bit-rate video coding I. *IEEE Journal on Selected Areas in Communications*, 15(9):1685-1687, December 1997.
2. K. Enami, A. Krikelis, and T. R. Reed. Guest editorial: Very low bit-rate video coding II. *IEEE Journal on Selected Areas in Communications*, 16(1):1-3, January 1998.

Patents

1. T. R. Reed. Analog adaptive magnitude equalizer. U.S. patent #4,553,248, November 12, 1985.

Invention Disclosures

1. T. R. Reed and T. C. Lin. A technique for phonocardiogram segmentation. June 5, 2006.

Publications in Reviewed Proceedings

1. T. R. Reed and H. Wechsler. Texture segmentation via non-stationarity detection using joint spatial/spatial-frequency representations. In *Digital Signal Processing '87, Proceedings of the International Conference*, pages 896–900, Florence, Italy, September 7-10, 1987.
2. T. R. Reed and H. Wechsler. Texture segmentation and organization using the Wigner distribution. In J. L. Lacoume, A. Chehikian, N. Martin, and J. Malbos, editors, *Signal Processing IV: Theories and Applications, Proceedings of EUSIPCO-88*, pages 263–266, Elsevier Science Publishers B.V. (North-Holland), Grenoble, France, September 5-8, 1988.
3. T. R. Reed and H. Wechsler. Texture analysis and clustering using the Wigner distribution. In *Proceedings of the 9th International Conference on Pattern Recognition*, pages 770–772, Rome, Italy, November 14-17, 1988.
4. T. R. Reed, T. Ebrahimi, G. Giunta, P. Willemin, F. Marqués, G. Campbell, and M. Kunt. Image sequence coding using concepts in visual perception. Invited paper. In *Proceedings of the SPIE/SPSE Symposium on Electronic Imaging Science and Technology*, pages 272–283, Santa Clara, California, February 11-16, 1990.
5. T. R. Reed, T. Ebrahimi, F. Marqués, and M. Kunt. New generation methods for the high-compression coding of digital image sequences. *From Pixels to Features II - Proceedings of the Workshop on Parallelism in Image Processing*, pages 401–413, Elsevier Science Publishers B.V. (North-Holland), Bonas, France, August 27 - September 1, 1990.

6. G. Giunta, T. R. Reed, and M. Kunt. Image sequence coding based on edge and line detection. In J. Torres, E. Masgrau, and M. A. Lagunas, editors, *Signal Processing V: Theories and Applications, Proceedings of EUSIPCO-90*, pages 773–776, Elsevier Science Publishers B.V. (North-Holland), Barcelona, Spain, September 18-21, 1990.
7. T. Ebrahimi, T. R. Reed, and M. Kunt. Sequence coding by Gabor decomposition. In J. Torres, E. Masgrau, and M. A. Lagunas, editors, *Signal Processing V: Theories and Applications, Proceedings of EUSIPCO-90*, pages 769–772, Elsevier Science Publishers B.V. (North-Holland), Barcelona, Spain, September 18-21, 1990.
8. T. G. Campbell, T. R. Reed, and M. Kunt. An orthogonal image transform based on QMF filters. In J. Torres, E. Masgrau, and M. A. Lagunas, editors, *Signal Processing V: Theories and Applications, Proceedings of EUSIPCO-90*, pages 877–880, Elsevier Science Publishers B.V. (North-Holland), Barcelona, Spain, September 18-21, 1990.
9. T. Ebrahimi, T. R. Reed, and M. Kunt. Video coding using a pyramidal Gabor expansion. In *Proceedings of Visual Communications and Image Processing '90*, pages 489–502, Lausanne, Switzerland, October 2-4, 1990.
10. T. G. Campbell, T. R. Reed, and M. Kunt. Image sequence representation using polar separable filters. In *Proceedings of Visual Communications and Image Processing '90*, pages 1126–1133, Lausanne, Switzerland, October 2-4, 1990.
11. F. Marqués, A. Gasull, T. R. Reed, and M. Kunt. Coding-oriented segmentation based on Gibbs-Markov random fields and human visual system knowledge. In *Proceedings of the IEEE 1991 International Conference on Acoustics, Speech and Signal Processing*, pages 2749–2752, Toronto, Ontario, Canada, May 14-17, 1991.
12. V. R. Algazi and T. R. Reed. Comparison of image compression techniques for high quality based on properties of visual perception. In *Proceedings of the SPIE's 1991 International Symposium on Optical Applied Science and Technology*, pages 589–598, San Diego, California, July 21-26 1991.
13. T. Ebrahimi, T. R. Reed, and M. Kunt. Low bit rate coding of image sequences using a pyramidal Gabor expansion. *1991 Picture Coding Symposium*, pages 205–206, Tokyo, Japan, September, 1991.
14. V. R. Algazi, T. R. Reed, G. E. Ford and R. R. Estes. Visual factors and image analysis in the encoding of high quality still images. In *Proceedings of the SPIE Conference on Visual Communications and Image Processing '91*, pages 329–338, Boston, Massachusetts, November 10-13 1991.
15. T. R. Reed. Image sequence coding using spatial/spatial-frequency representations. In *Proceedings of the SPIE/IS&T Symposium on Electronic Imaging '92*, pages 216–226, San Jose, California, February 9-14, 1992.
16. T. R. Reed, V. R. Algazi, G. E. Ford, and I. Hussain. Perceptually based coding of monochrome and color still images. In *Proceedings of the Data Compression Conference DCC '92*, pages 142–151, Snowbird, Utah, March 24-26, 1992.

17. T. R. Reed, V. R. Algazi, and I. Hussain. Segmentation-based still image coding in a perceptually transparent framework. In *Proceedings of the SID '92 International Symposium Seminar & Exhibition*, pages 673–676 and page 1006, Boston, Mass., May 17-22 1992.
18. V. R. Algazi, T. R. Reed, G. E. Ford, and R. R. Estes. Image analysis for adaptive noise reduction in super high definition image coding. In *Proceedings of the Visual Communications and Image Processing Conference VCIP '92*, pages 788–797, Boston, Mass., November 15-20 1992.
19. T. R. Reed. Image sequence representation and coding using the 3-D Gabor transform. In *Proceedings of the 1993 Picture Coding Symposium PCS '93*, paper 13.3, Lausanne, Switzerland, March 17-19 1993.
20. J. A. Bloom, T. R. Reed, and C. Y. Choo. An image representation based on planar patches and the local adjustment technique. In *Proceedings of the 1993 IEEE International Symposium on Circuits and Systems*, pages 830–833, Chicago, Illinois, May 3-6, 1993.
21. V. R. Algazi, T. R. Reed, G. E. Ford, R. R. Estes, and M. Mow. Comparison of image coding techniques for high quality. In *Proceedings of the SID '93 International Symposium Seminar & Exhibition*, pages 313–316, Seattle, Washington, May 16-21 1993.
22. T. R. Reed. High quality image compression using the Gabor transform. In *Proceedings of the SID '93 International Symposium Seminar & Exhibition*, pages 792–795, Seattle, Washington, May 16-21 1993.
23. I. Hussain and T. R. Reed. Compression of still images using segmentation-based approximation. In *Proceedings of the IS&T/SPIE Symposium on Electronic Imaging Science & Technology*, pages 134–145, San Jose, California, February 6-10, 1994.
24. A. E. Soohoo and T. R. Reed. Low bit rate coding of sequences using the Gabor transform. In *Proceedings of the Society for Information Display International Symposium and Exhibition (SID '94)*, pages 641–644, San Jose, California, June 12-17, 1994.
25. I. Hussain and T.R. Reed. Segmentation-based compression of mixed still images. In *Proceedings of the Society for Information Display International Symposium and Exhibition (SID '94)*, pages 633–636, San Jose, California, June 12-17, 1994.
26. I. Hussain and T. R. Reed. Successive image transmission using a segmentation-based image representation. In *Proceedings of the 1994 Picture Coding Symposium (PCS '94)*, pages 337–340, Sacramento, California, September 21-23, 1994.
27. I. Hussain and T. R. Reed. Segmentation-based image compression with enhanced treatment of textured regions. In *Proceedings of the Twenty-eighth Annual Asilomar Conference on Signals, Systems and Computers*, pages 965–969, Pacific Grove, California, October 31 - November 2, 1994.
28. I. Hussain and T. R. Reed. Segmentation-based nonlinear image smoothing. In *Proceedings of the First IEEE International Conference on Image Processing (ICIP '94)*, pages 507–511, Austin, Texas, November 13-16, 1994.

29. I. Hussain, T. R. Reed and A. Rueff. Multi-scale image segmentation using Gibbs-Markov random fields. In *Proceedings of the IS&T/SPIE Symposium on Electronic Imaging Science & Technology*, pages 81–89, San Jose, California, February 5-10, 1995.
30. T. R. Reed. Segmentation-based image processing. Invited paper. In *Proceedings of the International Conference on Digital Signal Processing*, Vol. 1, Special Sessions, pages 308–313, Limassol, Cyprus, June 26-28, 1995.
31. I. Hussain and T. R. Reed. Surface-curvature and Gibbs-Markov random fields based approach to image segmentation. In *Proceedings of the International Conference on Digital Signal Processing*, Vol. 2, pages 526–531, Limassol, Cyprus, June 26-28, 1995.
32. G. K. Wu and T. R. Reed. A comparison of image sequence representations based on 2-D and 3-D segmentation. In *Proceedings of the International Conference on Digital Signal Processing*, Vol. 2, pages 532-537, Limassol, Cyprus, June 26-28, 1995.
33. I. Hussain and T. R. Reed. Image segmentation using Gibbs-Markov random fields based on bond percolation. In *Proceedings of the SPIE Annual Meeting*, pages 344–354, San Diego, California, July 9-14, 1995.
34. G. K. Wu and T. R. Reed. 3-D segmentation-based video processing. In *Proceedings of the Thirtieth Annual Asilomar Conference on Signals, Systems, and Computers*, pages 120–124, Pacific Grove, California, November 3-6, 1996.
35. T. R. Reed. Motion analysis using the 3-D Gabor transform. In *Proceedings of the Thirtieth Annual Asilomar Conference on Signals, Systems, and Computers*, pages 506–509, Pacific Grove, California, November 3-6, 1996.
36. T. R. Reed. Spatiotemporal/spatiotemporal-frequency representations for the integrated analysis of dynamic scenes. Invited paper. In *Proceedings of the 1997 IEEE International Conference on Systems, Man, and Cybernetics*, pages 518–523, Orlando, Florida, October 12-15, 1997.
37. T. R. Reed. The analysis of motion in natural scenes using a spatiotemporal/spatiotemporal-frequency representation. In *Proceedings of the 1997 IEEE International Conference on Image Processing*, pages I-93–I-96, Santa Barbara, California, October 26-29, 1997.
38. J. A. Bloom and T. R. Reed. An uncertainty analysis of some real functions for image processing applications. In *Proceedings of the 1997 IEEE International Conference on Image Processing*, pages III-670–III-673, Santa Barbara, California, October 26-29, 1997.
39. J. A. Bloom and T. R. Reed. On the compression of still images using the derivative of Gaussian transform. In *Proceedings of the 1998 IEEE International Conference on Image Processing*, vol. 3, pages 433-437, Chicago, Illinois, October 4-7, 1998.
40. C. L. Kussmaul and T. R. Reed. Frequency domain representations of surfaces. Invited paper. In *Proceedings of the 1998 IEEE International Conference on Systems, Man, and Cybernetics*, pages 4504-4509, San Diego, California, October 11-14, 1998.

41. J. A. Bloom and T. R. Reed. On the compression of video using the derivative of Gaussian transform. In *Proceedings of the Thirty Second Annual Asilomar Conference on Signals, Systems, and Computers*, pages 865-869, Pacific Grove, California, November 1-4, 1998.
42. T. R. Reed. A spatiotemporal/spatiotemporal-frequency interpretation of apparent motion reversal. In *Proceedings of the Sixteenth International Joint Conference on Artificial Intelligence*, vol. 2, pages 1140-1145, Stockholm, Sweden, July 31 - August 6, 1999.
43. T. R. Reed, R. E. Loke and J. M. H. duBuf. The analysis of underwater acoustic data via 3-D segmentation. In *Proceedings of the Thirty-Third Annual Asilomar Conference on Signals, Systems and Computers*, vol. 1, pages 49-52, Pacific Grove, California, October 24-27, 1999.
44. E. B. Christopoulou, A. N. Skodras, T. R. Reed and C. A. Christopoulos. On the JPEG 2000 implementation on different computer platforms. Invited paper, special secession on JPEG 2000. In *Proceedings of the SPIE Int'l Symposium: Applications of Digital Image Processing XXIII*, vol. 4115, pages 561-569, San Diego, California, July 30 - August 4, 2000.
45. J. A. Bloom and T. R. Reed. Examining the effects of basis function truncation in the DGT. In *Proceedings of the 2000 IEEE International Conference on Image Processing*, pages 470-473, Vancouver, BC, Canada, September 10-13, 2000.
46. T. R. Reed, N. E. Reed and P. Fritzsøn. Model based heart sound analysis for the detection of diagnostically relevant symptoms. In *Proceedings of the Fourty-First Conference on Simulation and Modeling*, pages 73-86, Kgs. Lyngby, Denmark, September 18-19, 2000.
47. T. R. Reed, N. E. Reed and P. Fritzsøn. The analysis of heart sounds for symptom detection and machine-aided diagnosis. In *Proceedings of the 4th International EUROSIM Congress*, Delft, The Netherlands, June 26-29, 2001.
48. T. R. Reed. The representation and coding of volumetric images using the 3-D derivative of Gaussian transform. Invited paper. In *Proceedings of the 2001 IEEE International Conference on Image Processing*, pages 585-588, Thessaloniki, Greece, October 7-10, 2001.
49. M. Feng and T. R. Reed. Dense motion field estimation by 3-D Gabor representation. In *Proceedings of the 2004 IEEE International Conference on Image Processing*, pages 2555-2558, Singapore, October 24-27, 2004.
50. T. C. Lin and T. R. Reed. Heart sound segmentation for computer-aided auscultation. In *Proceedings of the 2005 IASTED International Conference on Signal and Image Processing*, pages 122-127, Honolulu, HI, August 15-17, 2005.
51. M. Feng and T. R. Reed. Detection and estimation of rotational motions using the 3-D Gabor representation. In *Proceedings of the 2005 IEEE International Conference on Image Processing*, pages I-133-I-136, Genoa, Italy, September 11-14, 2005.
52. J. Bang, A. Stenger and T. Reed. A Novel Method of Combining Multi-coil MRI Images: The Level-Weighted Wavelet Fusion. To appear in *Proceedings of the International Society for Magnetic Resonance in Medicine Sixteenth Scientific Meeting and Exhibition*, Toronto, Canada, May 3-9, 2008.

Other Publications

1. T. R. Reed. *A Program to Construct Global Minimum Test Problems*. Technical Report TR 85-36, Department of Computer Science, University of Minnesota, Minneapolis, MN, October 1985.
2. T. R. Reed. *The Approximation of Arbitrary Group Delay Characteristics Using Discrete-Time Allpass IIR Filters*. Master's thesis, Department of Electrical Engineering, University of Minnesota, Minneapolis, MN, April 1986.
3. T. R. Reed. *Texture Segmentation Using Joint Spatial/Spatial-Frequency Representations*. PhD thesis, Department of Electrical Engineering, University of Minnesota, Minneapolis, MN, April 1988.
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