

## Curriculum Vita

NAME: R. Joe Stanley  
Associate Professor of Electrical and Computer Engineering  
Missouri University of Science and Technology  
(Formerly University of Missouri-Rolla)  
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### ACADEMIC EXPERIENCE:

1994-1998 Ph.D. Computer Engineering and Computer Science, Graduated May 1998  
University of Missouri, Columbia, MO  
Dissertation Title: Data-Driven Homologue Matching for Chromosome  
Identification  
Advisor: Dr. James Keller  
1993-1994 M.S. Electrical Engineering, Graduated December 1994  
University of Missouri, Columbia, MO  
Thesis Title: Feature Stability Analysis for Chromosome Identification  
Advisor: Dr. James Keller  
1987-1992 B.S. Electrical Engineering, Minor in Mathematics, Graduated December 1992  
University of Missouri, Columbia, MO  
*Summa Cum Laude*

### WORK EXPERIENCE:

2009-Present Associate Chairman, Computer Engineering, Missouri University of Science and  
Technology, Rolla, MO  
2005-Present Associate Professor, Department of Electrical and Computer Engineering,  
Missouri University of Science and Technology (Formerly University of  
Missouri-Rolla), Rolla, MO  
1999-2005 Assistant Professor, Department of Electrical and Computer Engineering,  
University of Missouri, Rolla, MO  
1998-1999 Engineering Specialist, Systems & Electronics Inc., St. Louis, MO  
1995-1998 National Cancer Institute Predoctoral Fellow, Integrated Technology Services,  
University of Missouri, Columbia, MO  
1993-1995 National Library of Medicine Predoctoral Fellow, Medical Informatics Group,  
University of Missouri, Columbia, MO  
1992 Accounting Clerk, ARDEE Associates, Fullerton, CA

### UNIVERSITY SERVICE (Missouri S&T/formerly University of Missouri-Rolla):

- Chairman, Computer Engineering Undergraduate Studies Committee (2009-Present)

- Coordinator, Common Final, Computer Engineering Course CpE 111 (Introduction to Computer Engineering) (2008-Present)
- Member, Search Committee, Cynthia Tang Missouri Distinguished Professor, Department of Electrical and Computer Engineering (2011-2012)
- Chairman, Search Committee, Computer Engineering Faculty (2012-2013)
- Chairman, Graduate Faculty Membership Committee (2006, 2008, 2009)
- Coordinator, Computer Engineering PhD Qualifying Exam (2004-2009)
- Member, Commencement Committee (2005-Present)
- Member, Computer Security Task Force (2005-Present)
- Alternate Member, CyberSecurity Subcommittee (2005-2009)
- Member, Computer Engineering Undergraduate Studies Committee (2003-2009)
- Member, Library and Learning Resources Committee (2005-2006)
- Recruiter, High School Liaison Program (2002)
- Member, Electrical and Computer Engineering Scholarship Committee (2003-Present)
- Chairman, Electrical and Computer Engineering Scholarship Committee (2000-2002)
- Member, Electrical and Computer Engineering Faculty Search Committee (2002-2003)
- Member, Electrical and Computer Engineering ABET Preparation Committee (2000-2002)
- Member, Electrical and Computer Engineering Undergraduate Studies Committee (2000-2001)
- Member, Electrical and Computer Engineering Graduate Studies Committee (2000)
- Advisor, Freshman Engineering Program (1999-2002)
- Advisor, Preview, Registration and Orientation Program (2000-2002)

#### PROFESSIONAL ACTIVITIES:

##### **Service in Professional Organizations**

- Member, Advisory Committee, Rolla Technical Institute/Rolla Technical Center, Rolla, MO (2010-Present)
- Communications Chairman, 12<sup>th</sup> International IEEE Conference on Intelligent Transportation Systems, St. Louis, MO (2009)
- Co-Coordinator, Students Ethics Competition, ASEE Conference, Rolla, MO (2003)
- Local Arrangements Chairman, The International Conference on Fuzzy Systems (FUZZ-IEEE), St. Louis, MO (2003)
- Program Committee Member, The 14<sup>th</sup> IEEE Symposium on Computer-based Medical Systems, Bethesda, MD (2001)
- Consultant, National Library of Medicine (2000)

##### **Reviewer Activities for Funding Programs and Professional Papers**

- Editorial Board Member, Computerized Medical Imaging and Graphics (2008,2009)
- Reviewer, Intern Partnership Program, Oklahoma Center for the Advancement of Science and Technology (2002,2003,2005-2009) (Panel Chairman 2003, 2005)

- Reviewer, Oklahoma Applied Research Support (OARS) Program, Oklahoma Center for the Advancement of Science and Technology (2001,2002, 2004,2005,2006,2008,2009) (Chair of Chairs 2004, Panel Chair 2004,2006)
- Reviewer, Oklahoma Transportation Center Research, Education and Outreach Support Program, Oklahoma Center for the Advancement of Science and Technology (2009, 2010,2011) (Panel Chair 2009,2011)
- Reviewer, University of Missouri Research Board (2000-2002,2004-2008)
- Reviewer, Paper Submissions, *Transactions on Electrical Engineering, Electronics, and Communications* (ECTI-EEC) (2007)
- Reviewer, Paper Submissions, *Pattern Recognition* (2008)
- Reviewer, Paper Submissions, *Computerized Medical Imaging and Graphics* (2007,2008)
- Reviewer, Paper Submissions, *EURASIP Journal of Applied Signal Processing* (2005)
- Reviewer, *IEEE Transactions on Information Technology in Biomedicine* (2005)
- Reviewer, *Machine Vision and Applications* (2001)
- Reviewer, *IEEE Instrumentation and Measurement Transactions* (2003-2004)
- Reviewer, Paper Submissions, The International Conference on Fuzzy Systems (FUZZ-IEEE), St. Louis, MO, May 2003 (2002-2003)
- Reviewer, Paper Submissions, IEEE International Conference on Fuzzy Systems, Reno, NV, May 22-25, 2005 (2004)
- Reviewer, Paper Submissions, ANNIE Conference, St. Louis, MO (2003)

#### **Service to Student Professional Organizations**

- Communications Chairman, 12<sup>th</sup> International IEEE Conference on Intelligent Transportation Systems, St. Louis, MO (2009)
- Co-Coordinator, Students Ethics Competition, 2003 ASEE Conference, Rolla, MO (2003)
- Local Arrangements Chairman, The International Conference on Fuzzy Systems (FUZZ-IEEE), St. Louis, MO, May 2003 (2002-2003)
- Program Committee Member, The 14<sup>th</sup> IEEE Symposium on Computer-based Medical Systems, Bethesda, MD (2001)

#### **Memberships (Past and Present)**

- Senior Member, IEEE
- Member, North American Fuzzy Information Processing Society
- Member, American Medical Informatics Association
- IEEE Engineering in Medicine and Biology Society
- ASEE
- Sigma Xi
- Phi Kappa Phi
- Eta Kappa Nu, Electrical Engineering Honor Society
- Member, St. Louis Science Center
- Member, Zoo Friends, St. Louis Zoo
- Kiwanis
- Lifetime Member, University of Missouri Alumni Association

- Member, Golden Key National Honors Society

#### RESEARCH INTERESTS:

Image and signal processing, computational intelligence, data fusion, automation, bioinformatics, computer-assisted medical diagnostic aides, distributed system security, humanitarian demining

#### HONORS AND AWARDS:

- Outstanding Teaching Award, UMR/MS&T (2005,2009,2011,2012,2013)
- Dean of Engineering Teaching Excellence Award, UMR (2004,2005)
- Teaching Commendation, MS&T (2010)
- Senior Member, IEEE (2003)
- Listed in *Who's Who Among America's Teachers* (2004, 2005)
- Superior Graduate Research Award, Computer Engineering and Computer Science, University of Missouri, Columbia, MO (1997)
- First Place, Student Paper Competition, 34th Annual Rocky Mountain Bioengineering Symposium (1997)
- Travel Award, 34<sup>th</sup> Annual Rocky Mountain Bioengineering Symposium (1997)
- Second Place, Student Paper Competition, American Medical Informatics Annual Fall Symposium (1996)
- Awarded Travel Grant for Attendance to NATO Advanced Study Institute on Soft Computing and Its Applications, Antalya, Turkey (1996)
- United States National Collegiate Award in Electrical Engineering (national award) (1992)
- Curators' Scholar, University of Missouri (1987-1991)
- Chamber of Commerce Award for Proficiency in Business (1986)

#### SPONSORED RESEARCH:

Total Grants: \$2,865,702

Total Value of Stanley's Contribution: \$1,231,429

- R.J. Stanley (PI 100%), "R&D in computer-assisted processing of digitized histology images," National Library of Medicine, September 2013-September 2014, \$40,000.
- D.A. Bristow (PI 30%), R.J. Stanley (20%), J.A. Switzer (10%), E.W. Bohannan (10%), M.C. Leu (10%), J.L. Rovey (10%), J. Sarangapani (10%), "Development of an open-source dual-probe atomic force microscope," National Science Foundation, September 2012-August 2014, \$316,044.
- R.J. Stanley (PI 100%), "R&D in computer-assisted processing of digitized histology images," National Library of Medicine, September 2012-September 2013, \$50,000.
- R.J. Stanley (PI 100%), "Visual content analysis of biomedical images for clinical decision support," National Library of Medicine, September 2011-September 2012, \$70,000.
- R.J. Stanley (PI 100%), "Geospatial Image Analysis Project," Oak Ridge National Laboratory, September 2009-September 2010, \$15,612.

- R.J. Stanley (PI 100%), “R&D in Automatic Classification and Content Analysis of Biomedical Images for Clinical Decision Support and Content-Based Image Retrieval,” National Institutes of Health (National Library of Medicine), September 2009-September 2010, \$52,000.
- R.J. Stanley (PI 100%), “R&D in automatic classification and content analysis of biomedical images for Clinical Decision Support and Content-based Image Retrieval,” National Institutes of Health (National Library of Medicine), September 2008-August 2009, \$51,000.
- R.J. Stanley (PI 100%), “R&D in automatic classification of images from biomedical journal articles by modality and anatomy for Clinical Decision Support in Evidence-Based Practice and Content-Based Image Retrieval,” National Institutes of Health (National Library of Medicine), September 2007-August 2008, \$40,000.
- R.J. Stanley (PI 45%), R.H. Moss (35%), B. Shrestha (20%), “Automatic detection of critical dermoscopy features for melanoma diagnosis,” SBIR Phase II, National Institutes of Health, Subcontract from Stoecker & Associates, September 2006-August 2010, \$308,160.
- R.J. Stanley (PI 100%), “R&D and API development for web-deployable spine x-ray classification, boundary estimation of lumbar vertebrae, and medical validation of spine x-ray shapes,” National Institutes of Health (National Library of Medicine), September 2006-August 2007, \$55,000.
- R.J. Stanley (PI 100%), “Laser materials processing thrust area-8.2b multi-modal NDE development for corrosion detection and analysis,” Department of the Air Force, April 2004-May 2009, \$135,179.
- R.J. Stanley (PI 100%), “Illumination normalization on uterine cervix images, shape resolution independent spine x-ray classification, and medical validation of spine x-ray shapes,” National Library of Medicine, September 2005-August 2006, \$50,000.
- R.J. Stanley (PI 100%), “Dermatology feature analysis for melanoma detection,” University of Missouri Research Board, May 2005-May 2006, \$16,800.
- R.J. Stanley (PI 100%), “Live wire segmentation, collection of reference data, and biomedical classification,” National Library of Medicine, September 2004-August 2005, \$45,000.
- R.J. Stanley (PI 55%), R.H. Moss (25%), B.J. Shrestha (15%), “Automatic identification of critical dermoscopic features,” SBIR Phase I, National Institutes of Health, Subcontract from Stoecker & Associates, November 2003-December 2004, \$33,333.
- R. Stanley (PI 100%), “Software analysis and algorithm development for mine detection system,” U.S. Army Communications-Electronics Command, August 2002-December 2004, \$55,252.
- R.J. Stanley (PI 100%), “Segmentation techniques for spine x-ray images,” National Institutes of Health (National Library of Medicine), September 2003-August 2004, \$24,900.
- R.J. Stanley (PI 100%), “Statistical classification techniques for spine x-ray images,” National Institutes of Health (National Library of Medicine), July 2002-June 2003, \$24,900.

- O.R. Mitchell (PI 25%), J. Drewniak (15%), R.J. Stanley (15%), S. Kapila (15%), V. Flanigan (15%), S. Agarwal (15%), “Multidisciplinary research in mine detection and neutralization systems,” U.S. Department of the Army, January 2002-May 2002, \$73,617.
- O.R. Mitchell (PI 25%), J. Drewniak (15%), R.J. Stanley (15%), S. Kapila (15%), V. Flanigan (15%), S. Agarwal (15%), “Multidisciplinary research in mine detection and neutralization systems,” U.S. Department of the Army, December 2001-January 2002, \$25,000.
- D.A. Summers (PI 25%), S. Agarwal (15%), D. Beetner (15%), G. Grzegorz (15%), O. Mitchell (15%), R. Stanley (15%), “Implementation of new waterjet technology for humanitarian demining,” Science and Applications International Corporation Engineering, August 2001- March 2002, \$668,000.
- R.J. Stanley (PI 100%), “Cervical and lumbar spine image analysis for the detection of osteoporosis,” National Library of Medicine. July 2001-June 2002, \$20,000.
- B. McMillin (PI 34%), R.J. Stanley (33%), A. Miller (33%), “Insider threat detection for robust security,” University of Missouri Research Board, June 2001-May 2002, \$32,250.
- O.R. Mitchell (PI 25%), J. Drewniak (15%), R.J. Stanley (15%), S. Kapila (15%), V. Flanigan (15%), S. Agarwal (15%), “Multidisciplinary research in mine detection and neutralization systems,” U.S. Department of the Army, January 2001-November 2001, \$602,000.
- O.R. Mitchell (PI 25%), J. Drewniak (15%), R.J. Stanley (15%), S. Kapila (15%), V. Flanigan (15%), S. Agarwal (15%), “Multidisciplinary research in mine detection and neutralization systems,” U.S. Department of the Army, December 1999-January 2001, \$289,852.
- R.J. Stanley (PI 25%), C.W. Caldwell (25%), P.D. Gader (25%), J.M. Keller (25%), “Image processing of high-throughput microarray data,” University of Missouri Research Board, January 2000-July 2001, \$24,639.

## PUBLICATIONS:

### **Refereed Journal Publications**

- 1) S. De, \*R.J. Stanley, C. Lu, R. Long, S. Antani, G. Thoma, R. Zuna, “A Fusion-based Approach for Uterine Cervical Cancer Histology Image Classification,” *Computerized Medical Imaging and Graphics*, vol. 37, no. 7-8, pp. 475-487, 2013.
- 2) S. De, K. Gupta, \*R.J. Stanley, R. Zoughi, K. Doering, D. Van Aken, G. Steffes, M. O’Keefe, D. Palmer, “A comprehensive multi-modal NDE data fusion approach for failure assessment in aircraft lap-joint mimics,” *IEEE Transactions on Instrumentation and Measurement*, vol. 62, no. 4, pp. 814-827, 2013.
- 3) B. Cheng, \*R.J. Stanley, W.V. Stoecker, C.T.P. Osterwise, S.M. Stricklin, K.A. Hinton, R.H. Moss, M. Oliviero, H.S. Rabinovitz, “Automatic dirt trail analysis in dermoscopy images,” *Skin Research and Technology*, vol. 19, pp. e20-26, 2013.
- 4) B. Cheng, \*R.J. Stanley, W.V. Stoecker, S.M. Stricklin, K.A. Hinton, T.K. Nguyen, R.K. Rader, H.S. Rabinovitz, M. Oliviero, R.H. Moss, “Analysis of clinical and dermoscopic features for basal cell carcinoma neural network classification,” *Skin Research and Technology*, vol. 19, e217-e222, 2013.
- 5) G. Sforza, G. Castellano, S.K. Arika, R.W. LeAnder, \*R.J. Stanley, W.V. Stoecker, J.R. Hagerty, “Using adaptive thresholding and skewness correction to detect gray areas in

- melanoma in situ images,” IEEE Transactions on Instrumentation and Measurement, vol. 61, no. 7, pp. 1839-1847, 2012.
- 6) S. De, K. Gupta, \*R.J. Stanley, R. Zoughi, K. Doering, D. Van Aken<sup>c</sup>, G. Steffes, M. O’Keefe, D. Palmer, “A comprehensive structural analysis process for failure assessment in aircraft lap-joint mimics using intra-modal fusion of eddy current data,” Research in Nondestructive Evaluation, vol. 23, no. 3, pp. 146-170, 2012.
  - 7) B. Cheng, \*R.J. Stanley, S. De, S. Antani, G.R. Thoma, “Automatic detection of arrow annotation overlays in biomedical images,” International Journal of Healthcare Information Systems and Informatics, vol. 6, no. 4, pp. 23-41, 2011.
  - 8) B. Cheng, \*R.J. Stanley, W.V. Stoecker, K. Hinton, “Automatic telangiectasia analysis in dermoscopy images using adaptive critic design,” Skin Research and Technology, vol. 18, no. 4, pp. 389-396, 2012.
  - 9) B. Cheng, D. Erdos, \*R.J. Stanley, W.V. Stoecker, D. Calcara, D. Gomez, “Automatic detection of basal cell carcinoma using telangiectasia analysis in dermoscopy skin lesion images,” Skin Research and Technology, vol. 17, no. 3, pp. 278-287, 2011.
  - 10) \*R.J. Stanley, S. De, D. Demner-Fushman, S. Antani, G. Thoma, “An image feature-based approach to automatically find images for application to clinical decision support,” Computerized Medical Imaging and Graphics, vol. 35, pp. 365-372, 2011.
  - 11) H. Wang, R.H. Moss, X. Chen, \*R.J. Stanley, W.V. Stoecker, E. Celebi, J.M. Malters, J.M. Grichnik, A.A. Marghoob, H.S. Rabinovitz, S.W. Menzies, T.M. Szalapski, “Modified watershed technique and post-processing for segmentation of skin lesions in dermoscopy images,” Computerized Medical Imaging and Graphics, Special Dermatology Issue, vol. 35, no. 2, pp. 116-120, 2011.
  - 12) A. Dalal, R.H. Moss, R.J. Stanley, W.V. Stoecker, K. Gupta, D.A. Calcara, J. Xu, B. Shrestha, R. Drugge, J.M. Malters, L. A. Perry, “Concentric decile segmentation of white and hypopigmented areas in dermoscopy images of skin lesions allows discrimination of malignant melanoma,” Computerized Medical Imaging and Graphics, Special Dermatology Issue, vol. 35, no. 2, pp. 148-154, 2011.
  - 13) W.V. Stoecker, M. Wronkiewicz, R. Chowdhury, \*R.J. Stanley, J. Xu, A. Bangert, B. Shrestha, D.A. Calcara, H.S. Rabinovitz, M. Oliviero, F. Ahmed, L.A. Perry, R. Drugge, “Detection of granularity in dermoscopy images of malignant melanoma using color and texture features,” Computerized Medical Imaging and Graphics, Special Dermatology Issue, vol. 35, no. 2, pp. 144-147, 2011.
  - 14) H. Wang, X. Chen, R.H. Moss, \*R.J. Stanley, W.V. Stoecker, M.E. Celebi, T.M. Szalapski, J.M. Malters, J.M. Grichnik, A.A. Marghoob, H.S. Rabinovitz, S.W. Menzies, “Segmentation of dermoscopy images using a watershed technique,” Skin Research and Technology, vol. 16, no. 3, pp. 378-384, 2010.
  - 15) B. Shrestha, J. Bishop, K. Kam, X. Chen, R.H. Moss, W.V. Stoecker, S. Umbaugh, R.J. Stanley, M.E. Celebi, A.A. Marghoob, G. Argenziano, H.P. Soyer, “Detection of atypical texture features in early melanoma detection,” Skin Research and Technology, vol. 16, no. 1, pp. 60-65, 2010.
  - 16) J. Xu, K. Gupta, W.V. Stoecker, Y. Krishnamurthy, H.S. Rabinovitz, A. Bangert, D. Calcara, M. Oliviero, J.M. Malters, R. Drugge, \*R.J. Stanley, R.H. Moss, M.E. Celebi, “Analysis of globule types in malignant melanoma,” Archives of Dermatology, vol. 145, no. 11, pp. 1245-1251, 2009.

- 17) W.V. Stoecker, K. Gupta, B. Shrestha, M. Wronkiewicz, R. Chowdhury, \*R.J. Stanley, J. Xu, R.H. Moss, M.E. Celebi, H.S. Rabinovitz, M. Oliviero, J.M. Malters, I. Kolm, "Detection of basal cell carcinoma using color and histogram measures of semitranslucent areas," *Skin Research and Technology*, vol. 15, no. 3, pp. 283-287, 2009.
- 18) \*R.J. Stanley, S. Antani, R. Long, G. Thoma, K. Gupta, M. Das, "Size-invariant descriptors for detecting regions of abnormal growth in cervical vertebrae," *Computerized Medical Imaging and Graphics*, vol. 32, no. 1, pp. 44-52, 2008.
- 19) A. Khan, K. Gupta, \*R.J. Stanley, W.V. Stoecker, R.H. Moss, G. Argenziano, H.P. Soyer, H.S. Rabinovitz, A.B. Cagnetta, "Fuzzy logic techniques for blotch feature evaluation in dermoscopy images," *Computerized Medical Imaging and Graphics*, vol. 33, no. 1, pp. 50-57, 2009. *One of the 25 (# 24) most downloaded papers from October-December 2008 from Computerized Medical Imaging and Graphics.*
- 20) \*R.J. Stanley, W.V. Stoecker, R.H. Moss, "A basis function feature-based approach for skin lesion discrimination in dermatology dermoscopy images," *Skin Research and Technology*, vol. 14, no. 4, pp. 425-435, 2008.
- 21) \*R. J. Stanley, K.C. Ho, P. Gader, J. N. Wilson, J. Devaney, "Land mine and clutter object discrimination using wavelet and time domain spatially distributed features from metal detector and their fusion with GPR features for hand-held units," *Circuits Systems and Signal Processing*, vol. 26, no. 2, pp. 165-191, 2007.
- 22) \*R.J. Stanley, W.V. Stoecker, R.H. Moss, "A relative color approach to color discrimination for malignant melanoma detection in dermoscopy images," *Skin Research and Technology*, vol. 13, pp. 62-72, 2007.
- 23) \*R.J. Stanley, S.E. Watkins, R.H. Moss, A. Gopal, "Traffic monitoring using a three-dimensional object tracking approach," *International Journal of Engineering Education*, vol. 22, no. 4, pp. 886-895, 2006.
- 24) W.V. Stoecker, K. Gupta, R.J. Stanley, R.H. Moss, B. Shrestha, "Detection of asymmetric blotches (asymmetric structureless areas) in dermoscopy images of malignant melanoma using relative color," *Skin Research and Technology*, vol. 11, pp. 179-184, 2005.
- 25) Y. Chang, \*R.J. Stanley, R.H. Moss, W.V. Stoecker, "A systematic heuristic approach for feature selection for melanoma discrimination using clinical images," *Skin Research and Technology*, vol. 10, pp. 165-178, 2005.
- 26) M. Cherukuri, \*R.J. Stanley, R. Long, S. Antani, G. Thoma, "Anterior osteophyte discrimination in lumbar vertebrae using size-invariant features," *Computerized Medical Imaging and Graphics*, vol. 28, pp. 99-108, 2004.
- 27) P. Chamrathy, \*R.J. Stanley, R. Long, S. Antani, G. Thoma, "Image analysis techniques for characterizing disc space narrowing in cervical vertebrae interfaces," *Computerized Medical Imaging and Graphics*, vol. 28, pp. 39-50, 2004.
- 28) B. Erkol, R.H. Moss, \*R.J. Stanley, W.V. Stoecker, E. Hvatum, "Automatic lesion boundary detection in dermoscopy images using gradient vector flow snakes," *Skin Research and Technology*, vol. 11, no. 1, pp. 17-26, 2005.
- 29) D. Beetner, \*R.J. Stanley, S. Agarwal, D.R. Somasundaram, K. Nema, B. Mantha, "Landmine detection and discrimination using high-pressure waterjets," *EURASIP Journal of Applied Signal Processing*, vol. 13, pp. 1973-1984, 2004.

- 30) \*R.J. Stanley, S.E. Watkins, R.H. Moss, "The integration of real-world problems into image processing curriculum," *International Journal of Engineering Education*, vol. 21, no. 2, pp. 318-326, 2005.
- 31) \*R.J. Stanley, S. Agarwal, S. Somanchi, "The impact of false alarm mitigation on surface landmine detection in MWIR imagery," *Pattern Analysis and Applications*, vol. 7, pp. 26-39, 2004.
- 32) \*R.J. Stanley, S.E. Watkins, A. Gopal, R.H. Moss, "A web-sharable real-world imaging problem for enhancing an image processing curriculum," *IEEE Transactions on Education*, vol. 47, no. 2, pp. 211-219, 2004.
- 33) Y. Faziloglu, \*R.J. Stanley, R.H. Moss, W.V. Stoecker, R.P. McLean, "Color histogram analysis for melanoma discrimination in clinical images," *Skin Research and Technology*, vol. 9, pp. 147-155, 2003.
- 34) J. Chen, \*R. Stanley, R.H. Moss, W.V. Stoecker, "Color analysis of skin lesion regions for melanoma discrimination in clinical images," *Skin Research and Technology*, vol. 9, pp. 94-104, 2003.
- 35) \*R.J. Stanley, R.H. Moss, W.V. Stoecker, C. Aggarwal, "A fuzzy-based histogram analysis technique for skin lesion discrimination in dermatology clinical images," *Computerized Medical Imaging and Graphics*, vol. 27, pp. 387-396, 2003. *One of the 20 most downloaded papers in 2003 from Computerized Medical Imaging and Graphics.*
- 36) \*R.J. Stanley, P. Gader, D. Ho, "Feature and decision level sensor fusion of electromagnetic induction and ground penetrating radar sensors for landmine detection with hand-held units," *Information Fusion*, vol. 3, no. 3, pp. 215-223, 2002. *One of the 25 most downloaded papers in 2003 from Information Fusion.*
- 37) M. Popescu, P.D. Gader, J.M. Keller, C. Klein, J. Stanley, C. Caldwell, "Automatic karyotyping of metaphase cells with overlapping chromosomes," *Computers in Biology and Medicine*, vol. 29, no. 1, pp. 61-82, 1999.
- 38) \*R.J. Stanley, J. Keller, P. Gader, C.W. Caldwell, "Homologue matching applications: recognition of overlapped chromosomes," *Pattern Analysis and Applications*, vol. 1, no. 4, pp. 206-217, 1998.
- 39) \*R.J. Stanley, J. Keller, P. Gader, C.W. Caldwell, "Data-driven homologue matching for chromosome identification," *IEEE Transactions on Medical Imaging*, vol. 17, no. 3, pp. 451-462, 1998.

Note: An \* denotes that Dr. Stanley was a primary contributor for the paper.

### **Refereed Conference Proceedings**

- 1) B. Cheng, R. Wang, S. Antani, R.J. Stanley, G.R. Thoma, "Graphical image classification using a hybrid of combining an evolutionary algorithm and binary particle swarm optimization," *Proceedings of the 24th Annual Symposium on Electronic Imaging, Document Recognition and Retrieval XIX*, vol. 8297, pp. 1-8, San Francisco, CA, January 2012.
- 2) G. Sforza, G. Castellano, R.J. Stanley, W.V. Stoecker, J. Hagerty, "Adaptive segmentation of gray areas in dermoscopy images," *Proceedings of the IEEE International Symposium on Medical Measurements and Applications (MeMeA 2011)*, pp. 628-631, Bari, Italy, May 2011.

- 3) B. Cheng, S. Antani, R.J. Stanley, "Automatic segmentation of subfigure image panels for multimodal biomedical document retrieval," Proceedings of the SPIE Electronic Image Conference, vol. 7874, pp. z-1-11, San Francisco, CA, January 2011.
- 4) B. Cheng, R.J. Stanley, W.V. Stoecker, T. Szalapski, G.K. Veneyagamoorthy, H. Wang, "A hybrid computational intelligence algorithm for automatic skin lesion segmentation in dermoscopy images," Proceedings of the Artificial Neural Networks in Engineering Conference (ANNIE 2010), vol. 20, pp. 379-386, St. Louis, MO, October 2010.
- 5) B. Cheng, R.J. Stanley, S. Antani, G.R. Thoma, "A novel computational intelligence-based approach for medical image artifacts detection," Proceedings of the 2010 International Conference on Artificial Intelligence and Pattern Recognition, pp. 113-120, Orlando, FL, July 2010.
- 6) S. De, K. Gupta, R.J. Stanley, G. Steffes, D. Palmer, R. Zoughi, "A data fusion based approach for evaluation of material loss in corroded aluminum panels," Proceedings of the Twelfth International IEEE Conference on Intelligent Transportation Systems, pp. 444-449, St. Louis, MO, October 2009.
- 7) S.E. Watkins, R.J. Stanley, A. Gopal, R.H. Moss, "Surveillance of pedestrian bridge traffic using neural networks," in Sensors and Smart Structures Technologies for Civil, Mechanical and Aerospace Systems, Proceedings of SPIE, vol. 7292, pp. 72922Q-72922Q-12, San Diego, CA, March 9-12, 2009.
- 8) S. Seetharaman, R.J. Stanley, S. De, S. Antani, R. Long, G. Thoma, "Live wire segmentation tool for osteophyte detection in lumbar spine x-ray images," Proceedings of the International Conference on Emerging Trends in Engineering and Technology, Nagpur, India, pp. 715-721, July 2008.
- 9) S. Simsek, R.W. Wilkerson, R.J. Stanley, "Detecting insider threats with machine learning algorithms," Proceedings of IADIS European Conference on Data Mining, Lisbon, Portugal, pp. 150-154, July 2007.
- 10) K. Gupta, R.J. Stanley, M.T. Ghasr, S. Kharkovsky, R. Zoughi, G. Steffes, "Fusion of multimodal NDE data for improved corrosion detection," Proceedings of ICONIC, pp. 407-412, St. Louis, MO, June 2007.
- 11) K. Gupta, M.T. Ghasr, S. Kharkovsky, R. Zoughi, R.J. Stanley, A. Padwal, M. O'Keefe, D. Palmer, J. Blackshire, G. Steffes, N. Wood, "Fusion of microwave and eddy current data for a multi-modal approach in evaluating corrosion under paint and in lap joints," Proceedings of the Thirty-Third Annual Review of the Quantitative Nondestructive Evaluation Conference, vol. 26A, pp. 611-618, Portland, Oregon, July 31- August 5, 2006.
- 12) R. Dua, J.E. Seiffertt, B. Blaha, K. Gupta, V. Satagopan, R.J. Stanley, D. Beetner, D.C. Wunsch, "Hands-on projects and exercises to strengthen understanding of basic computer engineering concepts," Proceedings of the 2005 ASEE Annual Conference, Portland, OR, June 2005.
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### **Other Published Papers**

- R.J. Stanley, "An overview of data fusion methods and applications," Proceedings of a Workshop on Material State Awareness, National Materials Advisory Board Division on Engineer and Physical Sciences, National Research Council of the National Academies, pp. 37-38, 2008. Invited paper.
- W.V. Stoecker, R.J. Stanley, A. Khan, R.H. Moss, B. Shrestha, "Fuzzy logic applied to discrimination of melanoma in situ vs. dysplastic nevi," [abstract] *Dermatology*, vol. 212, pp. 294-295, 2006. Peer reviewed.
- R.J. Stanley, J. Keller, "Computer vision procedures for medical imaging," *Missouri Medicine*, vol. 91, no. 5, pp. 230-231, 1994. Invited paper.
- K. Gupta, R.J. Stanley, S. De, "Malignant melanoma discrimination using globule descriptors," Kriti 2008 (IEEE Co-Sponsored), G.H. Rasoni College of Engineering, Nagpur, India. Student paper competition won by S. De.

### **Poster Presentations**

- W.V. Stoecker, R.J. Stanley, R.H. Moss, K. Gupta, A. Khan, "Fuzzy Logic Analysis For Dermoscopy Image Discrimination," *Dermatology Internet Society Meeting*, San Francisco, CA, March 2, 2006.
- W.V. Stoecker, X. Chen, R.H. Moss, S. Umbaugh, R.J. Stanley, B. Shrestha, "A watershed-based approach to skin lesion border segmentation," 6th World Congress on Melanoma, Vancouver, BC, September 7, 2005.
- W.V. Stoecker, P. Jella, R.H. Moss, R.J. Stanley, P. Mukhopadhyaya, X. Chen, "Automatic melanoma discrimination by salient point detection," 6th World Congress on Melanoma, Vancouver, BC, September 7, 2005.
- R.J. Stanley, W.V. Stoecker, R.H. Moss, K. Gupta, P. Jella, "Color and structural features for automatic skin lesion discrimination in dermoscopy images," 6th World Congress on Melanoma, Vancouver, BC, September 7, 2005.
- W. Stoecker, X. Chen, R. Moss, R. Stanley, T. Lee, E. Hvatum, D. McLean, "Software improvements in hair detection using Dullrazor," 6th World Congress on Melanoma, Vancouver, BC, September 7, 2005.

## **Patents**

- W.V. Stoecker, R.H. Moss, R.J. Stanley, B. Shrestha, X. Chen, K. Gupta, P. Jella, R.N. Karthik Sadanandam, Automatic detection of critical dermoscopy features for malignant melanoma diagnosis, Patent number 7689016, April 19, 2010.
- J. Stanley, “Residual mail detection and container alignment,” Patent number 6190110, Systems & Electronics, Inc., February 20, 2001.
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## **Outside University Setting Presentations**

- W.V. Stoecker, K.A. Hinton, P. Albano, B. Cheng, R.J. Stanley, R.H. Moss, B. Shrestha, “Explosion of melanoma colors in dermoscopy,” Internet Dermatology Society, New Orleans LA, February 3, 2011.
- R.J. Stanley, “An overview of data fusion methods and applications,” National Academies Workshop on Materials State Awareness, Woods Hole, MA, September 25-26, 2007.
- R.J. Stanley, “Using cameras and computers to help diagnose skin cancer,” Mid-Missouri Area Health Education Center, Phelps County Medical Center, Rolla, MO, March 16, 2006.
- D. Ho, R.J. Stanley, P. Gader, J. Wilson, “Progress report on GPR and MD algorithm development,” HD-HSTAMIDS Technical Review, CyTerra, July 14, 2005.
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- D. Ho, R.J. Stanley, P. Gader, J. Wilson, “Quarterly progress report on GPR and MD algorithm development,” HD-HSTAMIDS Technical Review, CyTerra, January 8, 2003.
- R.J. Stanley, “Surface landmine detection in airborne images using the circular harmonics transform,” Fifth Annual Landmine Basic Research Technical Review, Sponsored by UXO Center of Excellence, Countermine Division NVESD and Army Research Office, October 9-11, 2001.
- R.J. Stanley, “The impact of weighted density distribution function features on land mine detection using hand-held units,” Fifth Annual Landmine Basic Research Technical Review, Sponsored by UXO Center of Excellence, Countermine Division NVESD and Army Research Office, October 9-11, 2001.
- W.V. Stoecker, R.H. Moss, R.J. Stanley, et al., “Update on visible-light imaging,” Fourth International Meeting of the International Society for Digital Imaging of the Skin, Washington, DC, March 8, 2001.
- R.J. Stanley, S. Agarwal, “Sensor fusion,” Fourth Annual Landmine Basic Research Technical Review, Sponsored by UXO Center of Excellence, Countermine Division NVESD and Army Research Office, August 7-10, 2000.
- C. Caldwell, R.J. Stanley, A. Asare, “Bioinformatics: an overview of sequence analysis,” Health Sciences Center, University of Oklahoma, Oklahoma City, OK, April 23, 2001.

- R.J. Stanley, “Cervical and lumbar spine image analysis,” Lister Hills Center, National Library of Medicine, Bethesda, MD, October 6, 2000. Abstract and presentation slides available online at the NLM website archive: <http://archive.nlm.nih.gov/>.

### **University Setting Presentations**

- K. Banerjee, R.J. Stanley, “Digitized histology image analysis for cervical cancer screening,” 3<sup>rd</sup> Quadrennial Automatic Skin Cancer Detection Symposium (IEEE Co-Sponsored), Missouri University of Science and Technology, August 21, 2013.
- W.V. Stoecker, J. Hagerty, S. Stricklin, R.H. Moss, R.J. Stanley, B. Shrestha, “Skin scan digital dermoscopy skin cancer training software,” University of Missouri Life Science Summit, Kansas City, MO, March 8, 2010.
- R.J. Stanley, W.V. Stoecker, R.H. Moss, B. Cheng, “Classifier Strategy in Lesion Discrimination and Application of Fusion Techniques to Melanoma Detection,” 2<sup>nd</sup> Quadrennial Cutaneous S&T Imaging Conference (IEEE Co-Sponsored), Missouri University of Science and Technology, August 26, 2009.
- R.J. Stanley, “Medical and demining neural network applications,” Invited Lecture, Computational Intelligence course, University of Missouri-Rolla, September 7, 2006.
- W.V. Stoecker, R.J. Stanley, “Fuzzy Logic, Regression and Neural Networks,” Symposium on Automatic Detection of Malignant Melanoma in Dermoscopy Images, University of Missouri-Rolla, July 13, 2005.
- R.J. Stanley, “Fuzzy logic, Relative Color and Neural Networks”, Symposium on Automatic Detection of Malignant Melanoma in Dermoscopy Images, University of Missouri-Rolla, July 6, 2005.
- R.J. Stanley, “Lessons learned for new faculty member,” New Faculty Forum, University Center-East, University of Missouri-Rolla, November 15, 2001.
- R.J. Stanley, “The application of minefield description to minefield detection,” Department of Computer Engineering and Computer Science, University of Missouri-Columbia, October 20, 2000.
- R.J. Stanley, “Medical imaging applications,” Eta Kappa Nu Chapter Meeting, Emerson Electric Co. Hall, University of Missouri-Rolla, December 1, 1999.
- R.J. Stanley, “Data-driven homologue matching for chromosome identification,” Health Management and Informatics Seminar Series, School of Medicine, University of Missouri, Columbia, MO, September 23, 1997.
- R.J. Stanley, “Neural network applications,” Health Services Management Seminar Series, Memorial Union, University of Missouri, November 19, 1995.

### **Students Supervised**

- Thesis advisor for 24 MS students and 3 PhD students
- Supervised 6 undergraduate students at Missouri S&T with Opportunity for Undergraduate Research Experience projects
- Supervised 1 senior design team and co-supervised 1 senior design team
- Currently supervising 4 MS students and 1 senior design team