

Dmitry B. Goldgof

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EDUCATION

Ph.D. Dept of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, 1989.
M.S. Dept. of Electrical, Computer, Systems Engineering, Rensselaer Polytechnic Institute, Troy, N.Y., 1985.
B.S. Dept. of Computer Science, Moscow Forest Engineering Institute, Moscow, Russia, 1979.

PROFESSIONAL EXPERIENCE

08/18 - Distinguished University Professor, University of South Florida
01/17 - Vice Chair, Department of Computer Science & Engineering, University of South Florida
08/00 - Professor, Department of Computer Science & Engineering, University of South Florida
03/19 - Member, USF Health Heart Institute, Tampa, FL
08/99 - Member, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL
03/13 - Professor, Department of Oncological Sciences, USF Health
10/17 - 10/23 Research Associate, James A. Haley Veterans Hospital, Department of Veterans Affairs
05/03 - 08/15 Associate Chair, Department of Computer Science & Engineering, University of South Florida
07/02 - 05/03 Professor, Cancer Control, Bioinformatics, H. Lee Moffitt Cancer Center, Tampa, FL
07/99 - 05/02 Director of Graduate Studies, Computer Science and Engineering, USF
05/99 - 05/03 Professor, Department of Psychology, University of South Florida
08/94 - 07/00 Associate Professor, Department of Computer Science & Engineering, USF
04/96 - 05/96 Visiting Associate Professor, Computer Science, University of Bern, Bern, Switzerland
09/95 - 03/96 Visiting Associate Professor, Computer Science, University of California at Santa Barbara
08/89 - 07/94 Assistant Professor, Computer Science and Engineering, USF
08/81 - 08/83 Systems Engineer, McGuinness and Associates, Inc., Schenectady, NY

INTERESTS

Medical Image Analysis and Machine Learning, Image and Video Processing, Computer Vision and Pattern Recognition, Ethics and Computing, Bioinformatics and Bioengineering

HONORS

- Keynote Speaker, Mitigating Shortcut Learning of Deep Neural Networks in Medical Image Analysis, 2022 11th International Conference on Computer Technologies and Development, Barcelona, Spain, 10/2022
- Invited Lecture, "Image Processing, Deep Learning and AI", Ben-Gurion University, Beersheba, Israel, 11/2021, 5/2022
- Awarded Fellow of the Asia-Pacific Artificial Intelligence Association (AAIA), 2021
- Keynote Talk, Explaining Deep Learning Using Radiologist Defined Semantic Features, Workshop on Open Challenges In Deep Learning For Biomedical Image Analysis, Virtual IEEE EMBS Conference, Montreal, Canada, 7/2020
- Invited Lecture, "Digital Image Processing", Ben-Gurion University, Beersheba, Israel, 12/2019, 12/2020, 6/2021
- Invited Panel Participant, AI + Healthcare Panel, USF Corporate Forum: Artificial Intelligence + X, Tampa, FL, 2/26/2020
- Excellence in Innovation Award, USF, 2020
- Invited Lecture, "Healthcare in the Age of AI and Deep Learning: Automatic Assessment of Neonatal Pain", Ben-Gurion University, Beersheba, Israel, 8/2019.
- Invited Lecture, "Healthcare in the Age of AI and Deep Learning: Automatic Assessment of Neonatal Pain", Johns Hopkins All Childrens Hospital, St. Petersburg, FL, 6/2019.
- Outstanding Faculty Award, USF, 2019
- Distinguished University Professor Lecture, "Healthcare in the Age of AI and Deep Learning: Automatic Assessment of Neonatal Pain", USF, 3/2019

- Named Distinguished University Professor, University of South Florida, 2018
- Invited Talk, "Automatic Assessment of Neonatal Pain", Polytechnic Univ of Bari, Bari, Italy, 5/2018
- 2017 Outstanding Research Achievement Award, College of Engineering, Univ of South Florida, 2018
- Elected, College of Fellows, American Institute for Medical and Biological Engineering (AIMBE), 2017
- Awarded Fellow status by American Association for the Advancement of Science (AAAS) "for distinguished contribution to the fields of computer vision, pattern recognition and biomedical applications, particularly in biomedical image analysis", 2016
- Member-at-Large (elected by SMC members), Board of Governors, IEEE Systems, Man and Cybernetics Society, 2010-2011, 2007, 2015-2017
- Invited Talk, "Image Analysis in Radiomics: Challenges and Opportunities", IEEE International Symposium on Multimedia, Miami, FL, 12/2015
- Keynote Talk, "Radiomics, Big Data and Cloud Computing", 2015 International Workshop on Complex Systems and their Modeling, Control, Scheduling and Security Management, Macau, China, 10/2015
- Invited Talk, "Radiomics, Big Data and Cloud Computing", University of Macau, China, 10/2015
- Invited Talk, UCR IGERT Retreat on Video Bioinformatics, Lake Arrowhead, CA, 10/2014
- Invited Talk, "Image Analysis and Data Mining in support of Radiomics", Institute of Automation, Chinese Academy of Sciences, Beijing, China, 5/2013
- IEEE Transactions on Intelligent Transportation Systems, 2010-2012: Best Survey Paper: Understanding Transit Scenes: A Survey on Human Behavior-Recognition Algorithms", vol. 11(1), 2010.
- Awarded Fellow status by International Association for Pattern Recognition (IAPR) "for contributions to computer vision, pattern recognition, and biomedical engineering", 2010.
- USF Academy of Inventors, Charter Member, USF, 2009
- Theodore and Venette Askounes-Ashford Distinguished Scholar Award, USF, 2008
- Elevated to the Fellow status by the Institute of Electrical and Electronics Engineers (IEEE) "for contributions to computer vision and biomedical applications" effective January 2007
- IEEE Distinguished Visitor Program (DVP), 2004-2006
- Keynote Speaker, Mexican International Conference on Computer Science, Puebla, Mexico, 9/2005
- Keynote Speaker, Intern. Symposium on the 3-D Analysis of Human Movement, Tampa, FL, 4/2004
- Together with two of his recent doctoral students Professor Goldgof was honored by USF Outstanding Dissertation Awards in 1999 (Dr. Leonid Tsap) and 2002 (Dr. Min Shin).
- Paper "Matching point features under small nonrigid motion", *Pattern Recognition*, 34(12), pp. 2353-2365, 2001, received Honorable Mention Award by the Pattern Recognition Society in 2002.
- Selected a *Favorite Professor* by USF chapter of the National Society of Collegiate Scholars in 2001.
- Paper "Automatic tumor segmentation using knowledge-based techniques" selected by International Medical Informatics Association for 2000 IMIA Yearbook containing "the best of medical informatics".
- Nineteenth Annual Pattern Recognition Society Award, 1993.
- University of South Florida, College of Engineering *Outstanding Young Investigator Award*, 1992-1993.

PATENTS, APPLICATIONS, LICENSING

- Details are often confidential, but my research group has worked with USF Patents and Licensing to license multiple technologies/IP.

Patents granted:

1. G. Alzamzi, C. Pai, D. Goldgof, R. Kasturi, T. Ashmede, Y.Sun, A Comprehensive and Context-Sensitive Neonatal Pain Assessment Using Computer Vision, U.S. Patent 11,202,604, issued 12/21/2021.
2. P. Mouton, H. Phoulady, D. Goldgof, L. Hall, "Automated Stereology for Determining Tissue Characteristics", U.S. Patent 11,004,199, issued 5/11/2021.
3. G. Alzamzi, D. Goldgof, Y. Sun, R. Kasturi, T. Ashmeade, "Machine-Based Infants Pain Assessment Tool", US Patent 10,827,973, issued 11/10/2020.
4. R. Gillies, R. Gatenby, M. Raghunand, J. Arrington, O. Stringfield, Y. Balagurunathan, D. Goldgof, L. Hall, Radiologically Identified Tumor Habitats, US Patent 10,827,945, issued 10/10/2020.
5. P. Mouton, D. Goldgof, L. Hall, B. Chaudhury, System and Method for Automated Stereology of Cancer", US Patent No.10,713,787, granted 7/14/2020.
6. R. Gillies, D. Goldgof, L. Hall, Systems and Methods for Diagnosing Tumors in a Subject By Performing a Quantitative Analysis of Texture-Based Features of a Tumor Object in a Radiological Image, US Patent No. 10,373,314, issued 8/6/2019.

7. J. Ligatti, C. Cetin, S. Engram, D. Goldgof, "Systems and Methods for Generating Symmetric Cryptographic Keys", US Patent No. 10,298,391, granted 5/21/2019.
8. J. Ligatti, C. Cetin, S. Engram, D. Goldgof, "Systems and Methods for Generating Symmetric Cryptographic Keys", US Patent No. 10,291,403, granted 5/14/2019.
9. P. Mouton, D. Goldgof, L. Hall, B. Chaudhury, "System and Method for Automated Stereology of Cancer", US Patent No. 10,096,110, granted 10/9/2018.
10. R. Gillies, D. Goldgof, L. Hall, "Systems and Methods for Diagnosing Tumors in a Subject By Performing a Quantitative Analysis of Texture-Based Features of a Tumor Object in a Radiological Image", US Patent No. 9,940,709, granted 4/10/2018.
11. J. Ligatti, D. Goldgof, C. Cetin, J. Subils, "System and Methods for Authentication using Multiple Devices", US Patent No. 9,659,160, granted 5/23/2017.
12. J. Ligatti, D. Goldgof, C. Cetin, J. Subils, "Systems and Methods for Anonymous Authentication using Multiple Devices", US Patent No. 9,380,058, granted 6/28/2016.
13. K. Kramer, P. Mouton, L. Hall, Goldgof, D. Elozory, O. Bonam, B. Chaudhury, "Software for Automatic Analysis of Biological Tissue using the Stereologer System", US Patent No. 9,297,995, granted 3/29/2016.
14. L. Tsap, D. Goldgof, S. Sarkar, "Computer Vision-Based Technique for Objective Assessment of Material Properties in Non-Rigid Objects", US patent No. 6,594,381, granted 7/15/2003.

Patent Applications:

1. "An Opioid-Sparing Alternative to Post-Surgical Pain Management in Neonates", serial no 62/967,375, filed 1/29/2020, United States. Ghada Alzamzmi, Sammie Elkins, Dmitry Goldgof, Thao Ho, Peter Mouton, Md Sirajus Salekin, Yu Sun
2. R. Paul, D. Goldgof, L. Hall, M. Schabath, R. Gillies, "Mitigating Adversarial Attacks on Medical Image Understanding Systems", U.S. Provisional Patent Application filed on 3/19/2020.
3. G. Alzamzmi, T. Ashmede, D. Goldgof, R. Kasturi, P. Rahul, M. Salekin, Y. Sun, Neonatal Pain Identification from Neonatal Facial Expressions, U.S. Patent Application filed on 10/19/2019.
4. M. Peterson, L. Cowans, K. Hall, D. Goldgof, S. Sarkar, H. Morera, Y. Sun, "Automatic Pressure Ulcer Measurement", U.S. Provisional Patent Application filed on 10/14/2019.
5. G. Alzamzmi, D. Goldgof, R. Kasturi, T. Ashmeade, Y. Sun, P. Rahul, Neonatal Convolutional Neural Network (N-CNN) for Pain Assessment Based on Facial Expression, U.S. Provisional Patent Application filed on 4/19/2018.
6. G. Alzamzmi, D. Goldgof, T. Ashmede, Y. Sun, R. Zhi, T. Li, System and Method for Recognition of Infants' Pain Based on Facial Expression, U.S. Provisional Patent Application filed on 4/19/2018.
7. J. Ligatti, D. Goldgof, "Systems and Methods for Authentication using Authentication Votes", US Patent Application No. 15/598,974, filed 5/18/2017.
8. G. Alzamzmi, D. Goldgof, Y. Sun, R. Kasturi, T. Ashmeade, Machine-Based Infants Pain Assessment Tool, US Patent Application 14/989,500 filed 1/6/2016
9. R. Gillies, R. Gatenby, M. Raghunand, J. Arrington, O. Stringfield, Y. Balagurunathan, D. Goldgof, L. Hall, Radiologically Identified Tumor Habitats, International Patent Application PCT/US2015/01594, filed 3/10/2015.

EDITORIAL BOARDS AND COMMITTEES

- *Frontiers in Imaging*, Editorial Board, 2022.
- *IEEE Access*, Editorial Board, 2019-2021.
- Associate Editor - *IEEE Transactions on Cybernetics* (2001 - present)
- RSNA QIBA CT Volumetry Biomarker Committee (2017 - present)
- Member of AAPM Data Science Committee (2019-2020)
- Member of IEEE SMC Society Fellows Evaluation Committee, 2014-2018, 2020
- IEEE Systems, Man and Cybernetics Society *Representative* to American Institute for Medical and Biological Engineering (AIMBE) Council of Societies (2017-2019)
- *ICPR Liaison Standing Committee*, International Assoc. of Pattern Recognition (IAPR), 2017-2019.
- *IEEE Press Editorial Board*, 2012-2014, and 2015-2017 terms
- Board of Governors, IEEE Systems, Man and Cybernetics Society, Publication Committee, 2015-2017
- Associate Editor - *International Journal of Pattern Recognition and Artificial Intelligence (IJPRAI)*, 2008 - 2019.

- NIH, Quantitative Imaging Network (QIN), Image Analysis & Performance Metrics Working Group (IAPMWG), member 2010 - present, Co-Chair 2011-2013, Pet/CT Working Group, Co-Chair 2016-2017, Chair 2017-2018
- ANVUR - National Agency for the Evaluation of the University and Research Systems, Italy, international reviewer, 2016.
- Managing Guest Editor, *Pattern Recogn. Letters*, Special Issue: Depth Image Analysis, 12/2014
- RSNA, Quantitative Imaging Biomarkers Alliance (QIBA), Algorithm Comparison Group, 2012 - 2013.
- Member of IEEE Computer Society Fellows Evaluation Committee, 2008, 2009, 2011-13
- North American Editor - *Image and Vision Computing*, 1998 - 2007
- *Image and Vision Computing*, Special Issue on Articulated and Non-rigid motion, Edited by Dimitris Metaxas, Chandra Kambhampettu and Dmitry Goldgof, 25(3), 2007.
- Founding Member - *Translational Bioinformatics Focused Interaction Group* at H. Lee Moffitt Cancer Center and Research Institute (2003 - 2005)
- Provost Academic Review Team for the Department of Computer and Information Sciences, University of Delaware (2002 -2003)
- International Association of Pattern Recognition Education Committee (2000 - 2002)
- Associate Editor - *PATTERN RECOGNITION* (1990 - 2001)
- Associate Editor - *IEEE Transactions on Image Processing* (1996 - 1998)

GRANTS

- A Multimodal Approach for Monitoring Prolonged Acute Pain in Neonates, National Institutes of Health (NIH), 07/16/2020-06/31/2022, \$400,575, USF PI Y. Sun, co-PIs: D. Goldgof, T. Ho, Y. Huang, D. Maguire.
- A Novel, Robust Fake Video Detection System, Defense Intelligence Agency (DOD), 5/1/2020-7/31/2021, \$904,981, USF PI S. Canavan, co-PIs: D. Goldgof, L. Hall, S. Sarkar, P. Rosen.
- NSF STTR Phase II: Deep Learning Technology For The Microscopic Analysis Of Stained Cells Using Unbiased Methods, National Science Foundation (NSF/IIP), 9/1/2019 - 8/31/2023, \$985,009, PI P. Mouton (SRC), USF PI D. Goldgof, co-PI L. Hall. \$388,711, USF subcontract. 9/1/2019 - 8/31/2021, Florida High Tech Corridor Matching Grant Program \$150,000.
- Automated assessment of pain in neonates, 2019 University of South Florida Nexus Initiative (UNI) Award, 7/1/2019 - 12/31/2021. \$13,100, D. Goldgof (PI).
- NSF STTR Phase I: Microscope-based Technology For Automatic Brain Cell Counts Using Unbiased Methods, National Science Foundation (NSF/IIP), 1/1/2018 - 12/31/2018, \$224,526, PI P. Mouton (SRC), USF PI D. Goldgof, co-PI L. Hall. \$101,000 USF subcontract, 1/1/2018 - 12/31/2019, Florida High Tech Corridor Matching Grant Program \$101,000.
- Radiomics of Non-Small Cell Lung Cancer, National Institute of Health (NCI/NIH), 08/15/2016 - 07/31/2022, Moffitt Cancer Center PIs, B. Gilles, M. Schabath, \$2,896,812, USF investigators, D. Goldgof, L. Hall.
- An Automated Pressure Ulcer Monitory System to Improve Pressure Ulcer Health Outcomes in Veterans with SCI, DOD CDMR Spinal Cord Injury Research Program, 9/30/2016 - 6/31/2021, Veterans Administration (VA) PI M. Peterson, \$613,017, USF subcontract \$185,983, USF D. Goldgof (PI), Y. Sun (co-PI), S. Sarkar (co-PI).
- Informatics Tools for Optimized Imaging Biomarkers for Cancer Research and Discovery, *National Institute of Health (NCI/NIH)*, 9/1/2014 - 8/30/19, Massachusetts General Hospital, PI: B. Rosen, J. Kalpathy-Cramer, Moffitt/USF subcontract \$746,389 (Moffitt PI: R. Gillies, D. Goldgof).
- Analysis of Cryptographic Primitives and Protocols, *CBT Holdings*, 5/9/16 - 5/8/17, \$56,649 + \$56,649 matching from the Florida High Tech Corridor, J. Ligatti (PI), Y. Liu (co-PI), D. Goldgof (co-PI).
- BEST: Electro-Optical Infrared Sensor Systems Streaming and Contrast Tracking, Phase III, *CAE USA*, 8/3/2015 - 8/2/2016, \$25,000, PI
- II-New: A Research Platform for Heterogeneous, Massive Parallel Computing, *National Science Foundation, Program: Computing Research Infrastructure*, 7/1/2015 - 6/30/2019, \$679,798, USF PI Yicheng Tu, role: Senior Personnel
- BEST: Electro-Optical Infrared Sensor Systems Streaming and Contrast Tracking, *CAE USA*, 8/4/2014 8/3/2015, \$25,000, PI
- Radiomics of Lung Cancer Screening, *James and Esther King Biomedical Research Program*, 7/1/2011 - 6/30/2014, Moffitt Cancer Center PI, B. Gilles, \$1,275,045, USF Subcontract \$276,818 (USF co-PI L. Hall).

- Radiomics of Non-Small Cell Lung Cancer, National Institute of Health (NCI/NIH), 3/9/ 2010 - 2/28/2015, Moffitt Cancer Center PIs, B. Gilles, B. Gatenby, \$2,984,045, USF Sub \$475,000, (USF co-PI, L. Hall).
- BEST: Electro-Optical Infrared Sensor Systems Streaming, *CAE USA*, 9/1/2013 - 8/31/2014, \$25,000.
- A Fully Automatic System for Verified Computerized Stereoanalysis, Stereology Research Center, *National Institute of Health (NIMH/NIH/SBIR)*, 10/1/2009 - 9/31/2013, SRC PI, P. Mouton, \$799,812, USF Subcontract \$309,842, (USF co-PI, L. Hall). Florida High Tech Corridor Matching Grant Program \$143,201.
- Performance Evaluation of Automated Tracking Systems for Airborne Video (PEATS), *SET Corporation, an SAIC Company / DARPA*, 8/1/2011 - 6/30/2012, \$80,000 (co-PI R. Kasturi).
- Mathematical and Physical Aspects of the Elliptic Growth, *USF Office of research and Innovations*, 11/1/2011 - 10/31/2012, \$24,600 (co-PIs D. Khavinson (PI), R. Teodorescu).
- Early Warning 4-D Remote Sensing System to Assess Synoptic Threats to Coastal Ecosystems of Florida and of Adjacent States and Nations, *BP/FIO - Gulf Oil Spill Prevention, Response and Recovery Grants Program*, 9/1/2010 - 8/31/2012, \$877,796 (lead-PI F. Muller-Karger, co-PIs L. Hall, C. Hu, subcontracts U Miami, FIT, NOAA/AOML, USM).
- Baseline for Impact Assessment of Zooplankton and Imaging Oil Droplet Detection on West Florida Shelf, *BP/FIO - Gulf Oil Spill Prevention, Response and Recovery Grants Program*, 9/1/2010 - 8/31/2012, \$377,310 (co-PIs, J. Cohen, K. Daly, L. Hall, R. Kasturi).
- Collaborations in Fluid Flow and Elliptic Growth Phenomena: Imaging and Modeling, *USF COE Interdisciplinary Scholarship Program*, 8/31/2009 - 3/31/2010, \$25,000 (co-PI, D. Khavinson, G Sisoiev).
- BPC-DP: CSTEP: Computer Science TransfER Programs, *National Science Foundation*, 10/15/2007 - 9/31/2011, \$592,715 (co-PI's M. Labrador, R. Perez, S. Kadamani).
- Graduate Student Support in Bioinformatics, *H. Lee Moffitt Cancer Center & Research Institute*, 8/7/2008 - 8/6/2009, \$94,800 (co-PI L. Hall).
- Accurate 3D Modeling of Breast Deformation for Temporal Mammogram Registration, *DoD Breast Cancer Research Program Concept Award*, 9/1/2007 - 8/31/2009, \$105,164.
- Evaluation of Smart Video for Transit Event Pattern Detection, *Federal Department of Transportation (FDOT-NCTR)*, 1/1/2008 - 8/31/2009, \$145,000, (co-PI D. Sapper).
- Transfer of USF Evaluation Algorithms into NIST Codebase, *National Institute of Standards and Technology (NIST)*, 5/8/2008 - 3/30/2009, \$65,026.
- Marine Security: Towards Maritime Sentry System, Graduate Education and Research in Pattern Recognition (USF), 2007-2009, \$60,000, (co-PI's Lembke, Sampson).
- Computational Fluid Dynamics of Pharmaceuticals Processing, Graduate Education and Research in Pattern Recognition (USF), 2007-2009, \$60,000, (co-PI's Sunol, Khavinson).
- A Computer Science and Engineering REU Site, *National Science Foundation*, 01/01/2008 - 12/31/2010, \$308,056, (co-investigator, PIs M. Labrador, R. Perez).
- Performance Evaluation for VACE Phase II, *Department of Defense, Advanced Research and Development Activity (ARDA)*, 9/23/2004 - 9/30/2007, \$1,960,411 (co-PI, PI R. Kasturi).
- Increasing the Accrual to Clinical Trials, *National Institutes of Health*, 6/01/05 - 11/30/07, \$310,000 (co-PIs L. Hall, K. Fields).
- A Computer Science and Engineering REU Site for Florida, Puerto Rico, Latin America, *National Science Foundation*, 02/01/2005 - 1/31/2008, \$299,368, (co-investigator, PIs M. Labrador, R. Perez).
- Effects of HYD1 on melphalan sensitivity in a SCID-Hu in-vivo multiple myeloma model, *Multiple Myeloma Research Foundation*, 1/01/06 - 12/31/06, \$100,000 (co-investigator, PI L. Hazlehurst).
- Development of Automated Image Analysis Software for Suspended Marine Particle Classification, *Office of Naval Research, DOD*, 1/1/2002 - 12/31/2002, \$290,809 (co-PI's S. Samson, T. Hopkins). 7/1/02 - 4/30/04, \$263,695, 5/1/2004 - 4/30/2007, \$273,962 (co-PI's S. Samson, T. Hopkins, L. Hall).
- Bioengineering Research Partnership for MR imaging spectroscopic data proc., *National Institutes of Health*, 7/1/02-6/30/07, \$480,000 (co-inv, PI L. Hall, with UCSF, U Miami, UCLA, total funds \$4.9M)
- Vision-based on-board collision avoidance system, *National Science Foundation I/UCRC*, 1/01/05 - 12/31/06, \$140,000, (co-PI, PI R. Kasturi, co-PIs S. Sarkar, H. Jeanty).
- Outdoor Biometrics at a Distance for Video Surveillance, *National Science Foundation I/UCRC*, 1/01/05 - 12/31/06, \$140,000, (co-PI, PI S. Sarkar, co-PI R. Kasturi).
- Film Flow in a Spinning Disk Reactor: Image Based Techniques, Collaboration in Basic Science and Engineering (COBASE), *The National Academies, National Research Council*, 1/1 - 12/31/2004, \$7,800.
- CISE Research Resources: A Compute-Intensive Sensor-Based Environment for Research in Computer Vision and Artificial Intelligence, *National Science Foundation*, 9/15/2001 - 8/31/2003, \$141,213 (\$213,213 with USF matching), (CO-PI's S. Sarkar, L. Hall, E. Fink).

- Automated Quantification of Melanoma, US Army Advanced Detection Center, Moffit Cancer Center, USF, 7/1/2001 - 9/31/2003, \$80,779 (co-PI's S. Sarkar, W. Cruse, D. Reintgen).
- Improved Breast Cancer Research through Automated Matching of Patients to Clinical Trials, *U.S. Army Medical Research Office - CDMRP*, 7/1/2000 - 6/31/2004, \$307,702 (co-PI L. Hall, J. Krischer).
- Enhancing Undergraduate Computer Science Curriculum Through Image Computations, *National Science Foundation*, Course, Curriculum, and Laboratory Improvement (CCLI), 1/1/2000 - 12/31/2001, \$75,205 (co-Pi's S. Sarkar, K. Bowyer).
- Nonrigid Motion and Structure Recovery from 2D Views, *National Science Foundation*, Robotics & Intelligent Systems, 5/1/97 - 3/31/2001, \$299,468 (\$320,468 with USF matching).
- Segmentation and Combination of Range Data using Color-Texture Information, *Sandia Laboratories*, 7/8/98 - 8/31/99, \$27,902 (co-PI's S. Sarkar).
- Quantitative Evaluation of Facial Reconstruction, *The Whitaker Foundation*, 04/01/96 to 04/30/2000, \$268,241 (consultant, PI S. Sarkar)
- Acquisition of a Compute Server for Image Analysis Research that Emphasizes Empirical Performance Characterization, *National Science Foundation*, CISE Instrumentation Program, 1/01/98 - 12/31/98, \$59,232 (\$88,848 with USF matching) (co-PI's K. Bowyer, S. Sarkar, L. Hall).
- Acquisition of a Cyberware 3D Scanner to Facilitate State of the Art Research in Computer Vision, *National Science Foundation*, Major Research Instrumentation (MRI) Program, 9/15/97 - 9/14/98, \$115,000 (\$164,286 with USF matching) (co-PI's S. Sarkar, K. Bowyer, L. Piegl).
- A Qualitative Reasoning Expert System for Assigning Patients into Clinical Trials, *H. Lee Moffitt Cancer Center & Research Institute*, 4/1/97 - 6/31/99, \$37,700.
- Space Grant Fellowship Program, *Florida Space Grant Consortium* 8/1/94 - 7/31/97, \$36,000.
- Support of the Research Activities of a Marine Engineering Institute at USF, *Department of Defense, Office of Naval Research*, 6/1/94 - 5/31/96, \$31,026.
- MRI Segmentation for Tumor Volume Measurements, *National Cancer Institute (NIH)* 3/1/93 - 2/28/96, \$390,327 (multiple co-investigators, co-PI's L. Clarke and L. Hall).
- Cardiac Segmentation, *Hewlett-Packard Company*, 4/1/95 - 6/1/95, \$2,500.
- Analysis of Cardiac Tagged MR Images, *Siemens Medical Systems Inc.*, 7/1/94 - 6/31/95, \$12,500.
- 3D Image Segmentation and Cardiac 3D Motion Analysis from MR data *Siemens Medical Systems Inc.*, (co-PI with L. Clarke), 11/1/91 - 10/31/93, \$50,000.
- Three-Dimensional Nonrigid Motion Analysis, *National Science Foundation*, Robotics & Intelligent Systems, Research Initiation Award, 7/15/90 - 6/30/93, \$67,564 (\$97,772 with USF matching funds). REU - supplement to IRI-9010357, 7/15/91 - 6/30/92, \$8,000 (\$11,000 with USF matching funds).
- Center for Engineering and Medical Image Analysis, *Sun Microsystems Inc.*, Hardware Grant. (Co-PI with L. Clarke) 5/1/91 - 4/31/92, \$131,600 (\$161,600 with USF matching funds).
- Techniques for the Left Ventricle Wall Motion Analysis, *The Whitaker Foundation*, Biomedical Engineering Research Grants, 11/01/90-12/31/92, \$102,549 (\$112,549 with USF matching), 1/1/93-12/31/93, \$52,449.
- Three-Dimensional Motion Analysis and its Biomedical Applications, *State of Florida High Technology and Industry Council*, Applied Research Grant Program, 1/1/90 - 1/31/90, \$19,872.

AFFILIATIONS

Fellow of AIMBE, Fellow of AAAS, Fellow of IEEE, Fellow of IAPR, member of IEEE Computer Society, IEEE Systems, Man and Cybernetics Society, IEEE SMC Technical Committee on Medical Informatics, IEEE Engineering in Medicine and Biology Society Member of SPIE - The International Society for Optical Engineering; past member of American Society of Engineering Education, OSA, Optical Society of America, Member of Pattern Recognition Society, Member of Phi Kappa Phi, The National Interdisciplinary Honor Society, Tau Beta Pi, The National Engineering Honor Society, Sigma Xi, The Scientific Research Society

RECENT CONFERENCES CHAIR/COMMITTEES

- *International Conference on Pattern Recognition* (26th ICPR), 8/2022, Montreal, Quebec, Canada, Program Committee member.
- *IEEE International Conference on Systems, Man and Cybernetics* (IEEE SMC 2021), 10/2021, Melbourne, Australia, Submission Co-Chair.

- *First Workshop on Computational and Affective Intelligence in Healthcare Application (VULNERABLE POPULATIONS)* (CAIHA 2020), 01/2021, ICPR 2020 Workshop, Milan, Italy, Workshop Chair.
- *IEEE International Conference on Systems, Man and Cybernetics* (IEEE SMC 2020), 10/2020, Toronto, Canada, Publication Co-Chair.
- *First Workshop on Computational and Affective Intelligence in Healthcare Applications (for Vulnerable Populations)*, CAIHA 2020 with ICPR 2020, 9/2020, Milan, Italy, Workshop Co-Chair.
- *Open Challenges in Deep Learning for Biomedical Image Analysis, Workshop at the 42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2020)*, Montreal, Canada, July 20-24, 2020, Organizer.
- *IEEE International Conference on Systems, Man and Cybernetics* (IEEE SMC 2019), 10/2019, Bari, Italy, Program Chair.
- *IEEE International Conference on Systems, Man and Cybernetics* (IEEE SMC 2017), 10/2017, Banff, Canada, Late Breaking Papers Co-Chair.
- *International Conference on Pattern Recognition* (23th ICPR), 12/2016, Cancun, Mexico, Publicity and Sponsorship Co-Chair and Program Committee member.
- *The IEEE International Symposium on Biomedical Imaging (ISBI'16)*, 4/2016, Prague, Czech Republic, Program Committee, Associate Editor.
- *International Conference on Pattern Recognition* (22th ICPR), 8/2014, Stockholm, Sweden, Program Committee, Area Chair (Pattern Recognition and Machine Learning)
- *26th International Symposium on Computer-Based Medical Systems (CBMS 2013, IEEE/ACM)*, 6/2013, Porto, Portugal, Program Committee
- *Big Data Computer Vision 2013, First IEEE Workshop on Large Scale Computer Vision*, 6/2013, Portland, Oregon, Program Committee
- *IEEE Workshop on the Applications of Computer Vision (WACV 2013)*, 1/2013, Clearwater Beach, FL, Local Arrangements
- *International Workshop on Depth Image Analysis (WDIA)*, 11/2012, Tsukuba, Japan, Workshop Chair
- *International Conference on Pattern Recognition* (21th ICPR), 11/2012, Tsukuba, Japan, Program Committee, Area Chair (Pattern Recognition & Applications)
- *25rd SIBGRAPI Conference on Graphics, Patterns, Images*, 8/2012, Brazil, Program Committee
- *25th International Symposium on Computer-Based Medical Systems (CBMS 2012, IEEE/ACM)*, 6/2012, Rome, Italy, Program Committee
- *24rd SIBGRAPI Conference on Graphics, Patterns, Images*, 8/2011, Macei, Brazil, Program Committee
- *International Conference on Computer Analysis of Images and Patterns (CAIP 2011)*, 8/2011, Seville, Spain, Program Committee
- *23rd SIBGRAPI Conference on Graphics, Patterns, Images*, 9/2010, Gramado, Brazil, Program Committee
- *International Conf on Pattern Recognition* (20th ICPR), 8/2010, Istanbul, Turkey, Program Committee
- *The First IEEE International Conference on Biometrics, Identity and Security (BIDS)*, 9/2009, Tampa, FL, Program Committee
- *International Conference on Computer Analysis of Images and Patterns (CAIP 2009)*, 9/2009, Munster, Germany, Program Committee
- *IEEE Computer Society Workshop on Mathematical Methods in Biomedical Image Analysis (MMBIA 2009)*, 7/2009, Miami, FL, Program Committee
- *IEEE International Conference on Systems, Man, and Cybernetics (SMC 2008)*, 10/2008, Singapore, Program Committee
- *International Conference on Pattern Recognition* (19th ICPR), 12/2008, Tampa, Florida, Local Arrangement Chair
- *IEEE Conf. Comp. Vision and Pattern Recognition*, 6/2007, Minneapolis, MN, Demos Chair
- *IEEE Workshop on Motion and Video Computing*, 2/2007 in Austin, Texas, Program Committee
- *International Conference on Pattern Recognition* (18th ICPR), 8/2006, Hong Kong, Program Committee, Session Chair
- *European Conference on Computer Vision (ECCV 2006)*, 5/2006, Graz, Austria, Program Committee
- *2nd International Workshop on Computer Vision Approaches to Medical Image Analysis (CVAMIA 2006)*, 5/2006, Graz, Austria, Program Committee
- *Asian Conference on Computer Vision (ACCV 2006)*, 1/2006, Hyderabad, India, Program Committee
- *IEEE Signal Processing Society International Workshop on Multimedia Signal Processing (MMSP 2005)* 10/2005, Shanghai, China, Publications Chair
- *IEEE Conf. Comp. Vision and Pattern Recognition*, 6/2005, San Diego, CA, Program Committee

- Third International Conference on Image and Graphics, 12/2004, Hong Kong, Program Committee
- International Conference on Bioinformatics and its Applications (ICBA 2004), 12/2004, Fort Lauderdale, FL, Program Committee
- *International Conference on Pattern Recognition* (17th ICPR), 8/2004, Cambridge, England, Program Committee
- *IEEE Conf. Comp. Vision and Pattern Recognition*, 6/2004, Washington, DC, Program Committee
- *IEEE Workshop on Articulated and Nonrigid Motion*, 6/2004, Washington, DC, General Co-Chair
- *Computer Vision Approaches to Medical Image Analysis Workshop (CVAMIA)*, 5/2004, Prague, Czech Republic, Program Committee
- *IEEE Conf. Comp. Vision and Pattern Recognition*, 6/2003, Madison, WI, Program Committee
- *IEEE Workshop on Motion and Video Computing*, 12/2002, Orlando, FL, Program Committee
- *International Conference on Pattern Recognition* (16th ICPR), 8/2002, Quebec City, Canada, Program Committee
- *IEEE Workshop, Math. Methods in Biomedical Image Analysis*, 12/2001, Hawaii, Program Committee
- *IEEE Workshop on Human Motion*, 12/2000, Austin, TX, Program Committee
- *IEEE Workshop on Applications of Comp. Vision*, 12/2000, Palm Springs, CA, Program Committee
- *IEEE Conf. Computer Vision and Pattern Recognition*, 6/1999 Denver, CO, Area Chair
- *IEEE Workshop on Biomedical Image Analysis*, 6/1998 Program Committee
- *IEEE Conf. Computer Vision and Pattern Recognition*, 6/1998, Santa Barbara, CA, General Chair
- *IEEE Workshop on Nonrigid and Articulated Motion*, 6/1997, Puerto Rico, Program Committee

RECENT UNIVERSITY COMMITTEES (selected)

USF Distinguished University Professor (DUP) Discipline Committee, Chair (2021)
 USF COE Distinguished University Professor (DUP) Recommending Committee, 2020 (Chair), 2021
 USF Distinguished University Professor (DUP) Recommending Committee (2019-2021)
 USF Sabbatical Recommendation Committee (2008-2010, 2019-2021)
 USF Research One Funding Review Committee (2011-2022)
 USF BME Graduate Program Steering Committee (2011-2017)
 USF Distinguished University Professor Discipline Committee, Chair (2011)
 USF Engineering Dean Search Committee (2006-2007)
 USF College of Engineering Executive Taskforce (2006-2007)
 USF Provost Ad Hoc Committee (2006)
 USF Council on Technologies for Instruction and Research (2005-2006)
 USF College of Engineering Governance Committee (2005-2008)
 USF Distinguished University Professor Committee (2003-2004)
 Dept Broadening Participation in Computing (BPC) Award Committee (Chair 2020)
 Department Course Scheduling Committee (2018-2022)
 Dept Broadening Participation in Computing (BPC) Committee (2019-2020), Co-Chair (2019-2020)
 Dept Faculty Search Committee (2014-2022)
 Department Graduate Committee (1990 - 2016)
 Department Undergraduate Curriculum and Advising Committee (1997 - 1998, 2010-2016)
 Dept Faculty Evaluation Committee (1997-1998, 2004-2005, 2008-2009, 2012-2014, 2020), Chairman (1997, 2009, 2013)
 Department Promotion and Tenure Committee (1995 - present)
 Department Infrastructure Committee, Chair (2003-2005)
 College of Engineering CS&E Chair Search Committee (2002-2003)

STUDENT SUPERVISION

Ph.D. Dissertation Guidance as Major (and Co-Major) Professor

1. Wen-Chen Huang, "Physically-Based Modeling in Nonrigid Motion Analysis", May 1994.
2. Chandra Kambhamettu, "Nonrigid Motion Analysis under Small Deformations", August 1994.
3. Senthil Kumar, "Nonrigid Shape Modeling Schemes", December 1995.
4. Adam Hoover, "The Space Envelope Representation for 3D Scenes", August 1996 (with K. Bowyer).
5. Mathew Clark, "Knowledge-Based Processing of MRI of the Brain", December 1997 (with L. Hall).
6. Mingrui Zhang, "Generic Knowledge-Guided Image Segmentation and Labeling with Applications", December 1998 (with L. Hall).
7. Leonid V. Tsap, "Finite Element Modeling of Biological Tissues", May 1999 (with S. Sarkar). Recipient of USF Graduate Council Outstanding Dissertation Prize for 2000.
8. Rampresad Balasubramanian, "Nonrigid Motion Tracking and Structure Reconstruction with Application to MPEG-4", December 1999.
9. Min Shin, "Nonrigid Motion Analysis and Reconstruction from 2D sequences", August 2001. Recipient of USF Graduate Council Outstanding Dissertation Prize for 2002.
10. Jaesik Min, "Improvement of Range Image Segmentation by Utilizing a Performance Evaluation Framework", August 2002 (with K. Bowyer).
11. Tong Luo, "Scaling Up Support Vector Machines with Application to Plankton Recognition", May 2005 (with L. Hall).
12. Yong Zhang, "Robust Algorithms for Property Recovery in Motion Modeling, Medical Imaging and Biometrics", August 2005 (with S. Sarkar).
13. Yuhua Gu, "Ant Clustering with Consensus", May 2009 (with L. Hall).
14. Yan Qiu, "Temporal Registration of Mammograms by Finite Element Simulation of MR Breast Volume Deformation", May 2009.
15. Joshua Candamo, "Boundary Profile Representation for Objects and Their Surroundings in Outdoor Videos", August 2009 (with R. Kasturi).
16. Vasant Manohar, "Facial Skin Motion Properties from Video: Modeling and Applications", December 2009 (with S. Sarkar).
17. Valentina Korzhova, "Motion Analysis of Fluid Flow in a Spinning Disk Reactor", August 2010.
18. Vidya Kamath, "Enhancing gene expression signatures in cancer prediction models: Understanding and managing classification complexity", December 2010 (with S. Eschrich).
19. Kurt Kramer, "System for Identifying Plankton from the SIPPER Instrument Platform", December 2010 (with L. Hall).
20. Jing Zhang, "Extraction of Text Objects in Image and Video Documents", May 2012 (with R. Kasturi)
21. Sergiy Fefilatyeu, "Algorithms for Visual Marine Surveillance with Rapidly Moving Camera", May 2012
22. Matthew Shreve, "Facial Expression Spotting and Applications", August 2013
23. Mu Zhou, "Knowledge Discovery and Predictive Modeling from Brain Tumor MRIs", May 2015 (with L. Hall)
24. Baishali Chaudhuri, "The Use of Textural Kinetics to Mine Diagnostic Information from DCE MR Images of Breast Tumors", May 2015 (with L. Hall)
25. Hady Ahmady Phoulady, "Adaptive Region-based Approaches for Cellular Segmentation of Bright-Field Microscopy Images", August 2017 (with L. Hall)
26. Rajmadhan Ekambaram, "Active Cleaning of Label Noise Using Support Vector Machines". August 2017 (with L. Hall)
27. Samuel Hawkins, "Lung CT Radiomics: An Overview of Using Images as Data", December 2017 (with L. Hall)
28. Hamidreza Farhidzadeh, "Learning to Predict Clinical Outcomes from Soft Tissue Sarcoma MRI", December 2017 (with L. Hall)
29. Ghada Zamzmi, "Automatic Assessment of Neonatal Pain", August 2018 (with R. Kasturi)
30. Rahul Paul, "Lung Nodule Malignancy Prediction from Computed Tomography Images using Deep Learning", May 2020 (with L. Hall)
31. Dmitry Cherezov, "Spatial Heterogeneity Utilization in CT Images for Lung Nodule Classification", August 2020 (with L. Hall)
32. Saeed Alahmari, "Active Deep Learning Method to Automate Unbiased Stereology Cell Counting", August 2020 (with L. Hall)

33. Chih-Yun Pai, "Automated Wound Segmentation and Dimension Measurement using RGB-D Image", August 2021.

M.S. Thesis Guidance as Major (and Co-Major) Professor

1. Sanjoy K. Mishra, "Nonrigid Motion Estimation from Point and Line Correspondences", 4/91.
2. Hongpin Li, "3D Model Construction from Multiple Unknown Range Views", 4/91 (with K. Bowyer).
3. Chandra Kambhamettu, "Curvature-Based Approach to Point Correspondence Recovery in Non-rigid Motion", 12/91.
4. Chin-Tzay Lin, "Motion Estimation from Scaled Orthographic Projections without Corresp.", 12/91.
5. Senthil Kumar, "Automatic Tracking of SPAMM Grid in Cardiac MR Images and the Estimation of Deformation Parameters", 12/92.
6. Art Matheny, "The Use of Three- and Four-Dimensional Surface Harmonics for Rigid and Non-Rigid Shape Recovery and Representation", 12/92.
7. Chunlin Li, "Knowledge Based Classification and Tissue Labeling of Magnetic Resonance Images of the Brain", 12/92 (with L. Hall).
8. Hsiao-Kun Tu, "Left Ventricular Boundary Detection From Spatio-Temporal Volumetric Computed Tomography Images", 8/93.
9. Song Han, "Modeling and Reconstruction of Nonrigid Shapes using Hyperquadrics", 8/93.
10. Adam Hoover, "Creating a boundary representation from a range image", 12/93 (with K. Bowyer).
11. Mathew Clark, "Segmentation of Brain MRI with Knowledge-Based Clustering", 8/94 (with L. Hall).
12. Bruce E. Montrose, "Object Correspondence and Motion estimation using Maximal Matching Techniques on OPUS Data", December 1994.
13. Leonid V. Tsap, "Efficient Utilization of Nonlinear FEM for Nonrigid Motion Analysis", 8/95.
14. Mingrui Zhang, "Knowledge-based Classification of CZCS Images and Monitoring of Phytoplankton Blooms off the West Florida Shelf", 8/96 (with L. Hall).
15. Min C. Shin, "An Objective Comparison of Edge Detection Algo. for Structure from Motion Task", 5/98.
16. Wensheng Yao, "Knowledge-based Classification of SeaWiFS Satellite Images for Monitoring Phytoplankton Blooms Off West Florida", 8/99 (with L. Hall).
17. Jungwei Ke, "Fast Accurate Fuzzy Clustering Through Reduced Precision", 9/99 (with L. Hall).
18. Li Zhou, "Computer Aided Image Analysis of Skin Histology Images", 12/00 (with S. Sarkar).
19. Jamie Freeman, "Compression techniques for microarray images", 8/00.
20. Yong Zhang, "An FEM based Motion Recovery Algorithms and it Application in Computer Vision and Imaging", 12/00 (with S. Sarkar).
21. Jing Lin, "Theory and Algorithms for 3D Tracking of Objects under Affine Motion", 12/01.
22. Yelena Mukomel, "Analysis of lesions in Three-dimensional Skin Images", 12/02 (with S. Sarkar).
23. Haiying Zhang, "Detecting Red Tides off West Florida Shelf by Classification of SeaWIFS Sattelite Imagery", 12/02 (with L. Hall).
24. Sorin Anton, "A Finite Element Based Approach in Computer Vision and its Applications for Nonrigid Registration and Biometrics", 12/02.
25. Mugdha Tembey, "Computer-Aided Diagnosis for Mammographic Microcalcification Clusters", 12/03 (with M. Kallergi).
26. Krassimir Ivanov, "Automatic Location and Segmentation of Skin Lesions Using 3D Range Scanner", 12/03 (with S. Sarkar)
27. Yan Qiu, "3D Deformation Model for Lesion Correspondence in Breast Imaging", 12/03 (with L. Li)
28. Bhavesh Goswami, "Optimizing Cost and Data Entry for Assignment of Patients to Clinical Trials Using Analytical and Probabilistic Web-Based Agents", 12/03 (with L. Hall)
29. Sangeeta Kundu, "Facial Strain Maps as a Biometric Source", 8/05 (with S. Sarkar).
30. Kurt Kramer, "Identifying Plankton from Grayscale Silhouette Images", 12/05.
31. Vidya Kamath, "Use of Random Subspaces Ensembles on Gene Expression Profiles to Enhance the Accuracy of Survival Prediction for Colon Cancer Patients", 12/05 (with R. Kasturi).
32. Li Chen, "Ranking-based Methods for Gene Selection", 4/06 (with L. Li).
33. Valentina Korzhova, "Tracking Fluid Flow in a Spinning Disk Reactor", 4/06
34. Vasant Manohar, "Video-based Person Identification using Facial Strain Maps as a Biometric", 4/06
35. Tim V. Ivanovskiy, "Mining Medical Data in a Clinical Environment", 7/06 (with L. Hall)

36. Chintan Thakkar, "Ventricle Slice Detection In MR Images Using Hough Transform and Object Matching Techniques", 12/06 (with L. Hall)
37. Sergiy Feflatyev, "Detection of Marine Vehicles in Images and Video of Open Sea", 6/08
38. Weijian Cheng, "Automatic Red Tide Detection Using MODIS Satellite Images", 4/09 (with L. Hall)
39. Sridhar Godavarthy, "Microexpression Spotting in Video using Optical Strain", 8/10
40. Om Pavithra Bonam, "Automated Quantification of Biological Microstructures Using Unbiased Stereology", 6/11 (with L. Hall)
41. Daniel Toby Elozory, "Using a Focus Measure to Automate the Location of Biological Tissue Surfaces in Brightfield Microscopy", 6/11 (with L. Hall)
42. Joshua Kidd, "Detecting Surface Oil using Unsupervised Learning Techniques on MODIS Satellite Data, 5/12 (with L. Hall)
43. Owen Watson, "Full 3D Reconstruction from Multiple RGB-D Cameras", 5/13 (with S. Sarkar)
44. Chih-Yun Pai, "Automatic Pain Assessment from Infant's Crying Sounds", 12/16
45. Palak Dave, "A Quantitative Analysis of Shape Characteristics of Marine Snow Particles with Interactive Visualization: Validation of Assumptions in Coagulation Models" 8/18 (with K. Daly)
46. Jacqueline Hausmann, "The Efficiency and Accuracy of YOLO for Neonate Face Detection in the Clinical Setting", 12/20
47. Hunter Morera, Deep learning in medical images, course only, 12/20
48. Sidharth Sribhashyam, Recognizing Patterns from Vital Signs using Spectrograms, 7/21

PUBLICATIONS (over 17,000 citations; impact: h index 63, i10 index 220, g index 123)**Journal:**

1. K. Ahmed, L. Hall, D. Goldgof, R. Gatenby, "Ensembles of Convolutional Neural Networks for Survival Time Estimation of High-grade Glioma Patients from Multimodal MRI", *Diagnostics*, 2022, 12(2), 345. Special Issue Brain Tumor Imaging.
2. C. Pai, H. Morera, S. Sarkar, Y. Huang, K. Hall, L. Cowan, M. Peterson, D. Goldgof, "Automated Pressure Ulcer Dimension Measurements using a Depth Camera", *Journal of Wound Care*, (Accepted, In Press).
3. M. Salekin, P. Mouton, G. Zamzmi, R. Patel, D. Goldgof, M. Kneusel, S. Elkins, E. Murray, M. Coughlin, D. Maguire, T. Ho, Y. Sun, "Future Roles of Artificial Intelligence in Early Pain Management of Newborn", *Paediatric and Neonatal Pain* 3(3), 134-145, 2021, DOI: 10.1002/pne2.12060.
4. Y. Balagurunathan, A. Beers, M. McNitt-Gray, L. Hadjiiski, S. Napel, D. Goldgof, et al., J. Kalpathy-Cramer, K. Farahani, "Lung Nodule Malignancy Prediction in Sequential CT Scans: Summary of ISBI 2018 Challenge", *IEEE Transactions on Medical Imaging*, 2021 (Accepted, In Press).
5. K. Ahmed, G. Goldgof, R. Paul, D. Goldgof, L. Hall, "Discovery of a Generalization Gap of Convolutional Neural Networks on COVID-19 X-rays Classification", *IEEE Access*, 2021, DOI: 10.1109/ACCESS.2021.3079716 (Accepted, In Press).
6. S. Moreno, Bonfante, E. Zurek, D. Cherezov, D. Goldgof, L. Hall, M. Schabath, "A Radiogenomics Ensemble to Predict EGFR and KRAS Mutations in NSCLC", *Tomography*, 2021 (Accepted, In Press).
7. P. Dave, S. Alahmari, D. Goldgof, L. Hall, H. Morera, P. Mouton, "An Adaptive Digital Stain Separation Method for Deep Learning-based Automatic Cell Profile Counts", *Journal of Neuroscience Methods*, 2021 (Accepted, In Press).
8. M. S. Salekin, G. Zamzmi, J. Hausmann, D. Goldgof, R. Kasturi, M. Kneusel, T. Ashmeade, T. Ho, Y. Sun, "Multimodal Neonatal Procedural and Postoperative Pain Dataset," *Data-in-Brief*, 2021 (Accepted, In Press).
9. M. Salekin, G. Zamzmi, D. Goldgof, R. Kasturi, T. Ho, Y. Sun, "Multimodal Spatio-Temporal Deep Learning Approach for Neonatal Postoperative Pain Assessment", *Computers in Biology and Medicine*, vol. 129, p. 104150, 2021.
10. S. Alahmari, D. Goldgof, P. Mouton, L. Hall, "Challenges for the Repeatability of Deep Learning Models," *IEEE Access*, v. 8, pp. 211860-211868, 2020, doi: 10.1109/ACCESS.2020.3039833.
11. R. Paul, M. Schabath, R. Gillies, L. Hall, D. Goldgof, "Convolutional Neural Network ensembles for accurate lung nodule malignancy prediction 2 years in the future", *Computers in Biology and Medicine* 122 (2020): 103882.
12. R. Paul, M. Hassan, E. Moros, R. Gillies, L. Hall, D. Goldgof, "Deep feature stability analysis using CT images of a physical phantom across scanner manufacturers, cartridges, pixel sizes, and slice thickness." *Tomography* 6.2 (2020): 250.
13. D. Cherezov, R. Paul, N. Fetisov, R. Gillies, M. Schabath, D. Goldgof, L. Hall, "Lung Nodules Sizes are Encoded when Scaling CT Images for CNNs", *QIN Special Issue, Tomography*. 2020 Jun; 6(2): 209-215.
14. M. McNitt-Grey, S. Napel, A. Jaggi, S. Mattonen, L. Hadjiiski, M. Muzi, D. Goldgof, Y. Balagurunathan, L. Pierce II, E. Jones, A. Nguen, A. Virkud, et. al, "Standardization in Quantitative Imaging: A Multi-center Comparison of Radiomic Features from Different Software Packages on Digital Reference Objects and Patient Datasets", *QIN Special Issue, Tomography*. 2020 Jun; 6(2): 118-128.
15. G. Zamzmi, C. Pai, D. Goldgof, R. Kasturi, T. Ashmeade, Y. Sun, "A Comprehensive and Context-Sensitive Neonatal Pain Assessment Using Computer Vision, *IEEE Transactions on Affective Computing*, accepted for publication.
16. G. Zamzmi, R. Paul, M. Salekin, D. Goldgof, R. Kasturi, T. Ho, Y. Sun, Convolutional Neural Network for Neonatal Pain Assessment. *IEEE Transactions on Biometrics, Behavior, and Identity Science*, vol. 1(3), 192-200, May 2019.
17. H. Phoulady, P. Mouton, D. Goldgof, L. Hall, "Automatic Ground Truth for Deep Learning Stereology of Immunostained Neurons and Microglia in Mouse Neocortex", *Journal of Chemical Neuroanatomy*, 96: 1-7, 2019.

18. D. Cherezov, D. Goldgof, L. Hall, R. Gillies, M. Schabath, H. Mller, A. Depeursinge, "Revealing Tumor Habitats from Texture Heterogeneity Analysis for Classification of Lung Cancer Malignancy and Aggressiveness", (Nature) Scientific Reports, 9, Article number: 4500, March 2019. doi: <https://doi.org/10.1038/s41598-019-38831-0>
19. S. Alahmari, P. Mouton, H. Phoulady, L. Hall, R. Patel, D. Goldgof, "Automated Cell Counts on Tissue Sections by Deep Learning and Unbiased Stereology" *Journal of Chemical Neuroanatomy*, 96:94-101, 2019.
20. H. Phoulady, D. Goldgof, K. Nash, P. Mouton, L. Hall, "Automatic Stereology of Mean Nuclear Size of Neurons using an Active Contour Framework", *Journal of Chemical Neuroanatomy*, 96:110-115, 2019.
21. R. Paul, M. Schabath, Y. Balagurunathan, Y. Liu, Q. Li, R. Gillies, L. Hall, D. Goldgof, "Explaining Deep Features using Radiologist-Defined Semantic Features and Traditional Quantitative Features", *Tomography (QIN Special Issue)*, doi: 10.18383/j.tom.2018.00034, 5(1), 192-200, 2019.
22. S. Alahmari, D. Cherezov, D. Goldgof, L. Hall, R. Gillies, M. Schabath, "Delta Radiomics Improves Pulmonary Nodule Malignancy Prediction in Lung Cancer Screening", *IEEE Access*, DOI: 10.1109/ACCESS.2018.2884126, v. 6(1), 77796-77806, December 2018.
23. D. Cherezov, S. Hawkins, D. Goldgof, L. Hall, Y. Lu, Q. Li, Y. Balagurunathan, R. Gillies, M. Schabath, "Delta radiomic features improve prediction for lung cancer incidence: A nested case-control analysis of the National Lung Screening Trial", *Cancer Medicine*, DOI:10.1002/cam4.1852, December 2018.
24. R. Zhi, G. Zamzmi, D. Goldgof, T. Ashmeade, T. Li, Y. Sun, "Infants' Pain Recognition based on Facial Expression: Dynamic Hybrid Descriptions", *IEICE Transactions on Information and Systems*, vol. E101D, NO.7, July 2018.
25. R. Zhi, G. Zamzmi, D. Goldgof, T. Ashmeade, T. Li, Y. Sun, "Automatic Infants Pain Assessment by Dynamic Facial Representation: Effects of Profile View, Gestational Age, Gender, and Race", *Journal of Clinical Medicine*, 7(7), 173, July 2018, doi: 10.3390/jcm7070173
26. R. Paul, S. Hawkins, M. Schabath, R. Gillies, L. Hall, D. Goldgof, "Predicting Malignant Nodules by Fusing Deep Features with Classical Radiomics Features", *Journal of Medical Imaging*, 5(1), 011021 (2018), doi: 10.1117/1.JMI.5.1.011021
27. Y. Balagurunathan, A. Beers, J. Kalpathy-Cramer, M. McNitt-Gray, L. Hadjiiski, B. Zhao, J. Zhu, H. Yang, S. Yip, H. Aerts, S. Napel, D. Cherezov, K. Cha, H. Chan, C. Flores, A. Garcia, R. Gillies, D. Goldgof, Semi-Automated Pulmonary Nodule Interval Segmentation using the NLST Data, *Medical Physics*, DOI:10.1002/mp.12766, v.45(3), pp. 1093-1107, March 2018.
28. G. Zamzmi, R. Kasturi, D. Goldgof, R. Zhi, T. Ashmeade, Y. Sun, "A Review on Automated Pain Assessment for Infants: Features, Classification Tasks, and Databases", *IEEE Reviews in Biomedical Engineering*, v 11, pp. 77-96 2018, doi: 10.1109/RBME.2017.2777907.
29. M. Zhou, J. Scott, B. Chaudhury, L. Hall, D. Goldgof, K. Yeom, M. Iv, Y. Ou, J. Kalpathy-Cramer, S. Napel, R. Gillies, O. Gevaert, R. Gatenby, "Radiomics in Brain Tumor: Image Assessment, Quantitative Feature Descriptors and Machine-learning Approaches", *American Journal of Neuroradiology*, October 2017, DOI: <https://doi.org/10.3174/ajnr.A5391>.
30. H. Phoulady, D. Goldgof, L. Hall, P. Mouton, "A Framework for Nucleus and Overlapping Cytoplasm Segmentation in Cervical Cytology Extended Depth of Field and Volume Images", *Computerized Medical Imaging and Graphics*, v.59, pp. 38-49, 2017, doi: 10.1016/j.
31. M. Shafiq-ul-Hassan, G. Zhang, K. Latifi, G. Ullah, D. C. Hunt, Y. Balagurunathan, M. A. Abdullah, M. B. Schabath, D. G. Goldgof, D. Mackin, L. E. Court, R. J. Gillies, E. G. Moros, "Intrinsic dependencies of CT radiomic features on voxel size and number of gray levels", *Medical Physics*, March 2017, v.44(3), pp. 1050-1062, DOI: 10.1002/mp.12123,
32. P. Mouton, H. Phoulady, D. Goldgof, L. Hall, M. Gordon, D. Morgan, "Unbiased Estimation of Cell Number Using the Automatic Optical Fractionator", *Journal of Chemical Neuroanatomy*, v80 (A1-A8), 2017.
33. R. Beichel, B. Smith, J. Ulrich, C. Bauer, P. Ahmadvand, M. Budzevich, R. Gillies, D. Goldgof, M. Grkovski, G. Hamarneh, Q. Huang, P. Kinahan, C. Laymon, E. Moros, J. Mountz, J. Muzi, M. Muzi, S. Nehmeh, M. Oborski, Y. Tan, B. Zhao, J. Sunderland, J. Buatti, "Multi-site Quality and Variability Analysis of 3D FDG PET Segmentations based on Phantom and Clinical Image Data", *Medical Physics*, February 2017, V.44(2), pp. 479496, DOI: 10.1002/mp.12041, **Editor's Choice Article - 2017**.

34. R. Paul, S. Hawkins, Y. Balagurunathan, M. Schabath, R. Gillies, L. Hall, D. Goldgof, "Deep Feature Transfer Learning in Combination with Traditional Features Predicts Survival among Patients with Lung Adenocarcinoma", *Tomography Journal*, Special QIN Issue, 2016, v.2(4), pp. 388-395, 2016, DOI: 10.18383/j.tom.2016.00211
35. M. Zhou, B. Chaudhury, L. Hall, D. Goldgof, R. Gillies, R. Gatenby, "Identifying Spatial Imaging Biomarkers of Glioblastoma Multiforme for Survival Group Prediction", *Journal of Magnetic Resonance Imaging*, 2016, Online: 28 September 2016, DOI: 10.1002/jmri.25497.
36. S. Hawkins, H. Wang, Y. Liu, A. Garcia, O. Stringeld, H. Krewer, Q. Li, D. Cherezov, R. Gatenby, Y. Balagurunathan, D. Goldgof, M. Schabath, L. Hall, R. Gillies, "Predicting malignant nodules from screening CTs", *Journal of Thoracic Oncology*, 2016, DOI: 10.1016/j.jtho.2016.07.002. **Editor's Choice Article - 2017.**
37. J. Kalpathy-Cramer, B. Zhao, D. Goldgof, Y. Gu, X. Wang, H. Yang, Y. Tan, R. Gillies, S. Napel, "A Comparison of Lung Nodule Segmentation Algorithms: Methods and Results from a Multi-institutional Study", *Journal of Digital Imaging*, (2016) 29: 476-486, Online: 03 February 2016, DOI 10.1007/s10278-016-9859-z.
38. R. Ekambaram, S. Fefilatyevev, K. Kramer, M. Shreve, L. Hall, D. Goldgof, R. Kasturi, "Active Cleaning of Label Noise", *Pattern Recognition*, v 51(C), pp. 463-480, 2016, doi:10.1016/j.patcog.2015.09.020.
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CONFERENCE PUBLICATIONS**Conference - 2020 - 2022:**

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2. H. Morera, P. Dave, Y. Kolinko, K. Allen, S. Alahmari, D. Goldgof, L. Hall, P. Mouton, "Classification of global microglia proliferation based on deep learning with local images", *SPIE Medical Imaging 2022*, Image Processing, San Diego, CA, 2/2022.
3. P. Dave, D. Goldgof, L.O. Hall, Y. Kolinko, K. Allen, S.S. Alahmari, H. Morera, G. Denham, S. Galvez, A. Becker, R. Albay, W.C. Mobley, and P.R. Mouton, A novel automatic approach for total neuron counts using the unbiased disector method, Program No. P976.09. Neuroscience 2021 Abstracts, Virtual: Society for Neuroscience, 11/2021 (Accepted).
4. H. Morera, P. Dave, D. Goldgof, L.O. Hall, Y. Kolinko, K. Allen, S.S. Alahmari, R. Albay, A. Becker, W.C. Mobley, and P.R. Mouton, Global estimates of microglial cell numbers using deep learning, Program No. P976.08. Neuroscience 2021 Abstracts, Virtual: Society for Neuroscience, 11/2021 (Accepted).
5. P. A. DELGADO, K. B. SANCHEZ, A. ANDERSON, R. H. PATEL, S. S. ALAHMARI, D. B. GOLDGOF, L. O. HALL, P. R. MOUTON. Comparison of manual, semi-automatic and fully automatic counts of immunostained neurons in mouse brains. Annual Meeting of the Society For Neurosciences, Abstr. 2291, P976.07, November 11, 2021, Chicago, IL.
6. S. Srihashyam, M. Salekin, D. Goldgof, G. Zamzmi, M. Last, Y. Sun, Pattern recognition in Vital Signs using Spectrograms, in 2021 IEEE International Conference on Systems, Man and Cybernetics (SMC), pp. 16, 10/2021.
7. J. Hausmann, Md Salekin, G. Zamzmi, Y. Sun, and D. Goldgof, Robust Neonatal Face Detection in Real-world Clinical Settings. In: Women in Computer Vision CVPR 2021. 6/2021.
8. R. Paul, S. Kariev, D. Cherezov, M. Schabath, R. Gillies, L. Hall, D. Goldgof, "Deep Radiomics: Deep Learning on Radiomics Texture Images", *SPIE Medical Imaging 2021*, Online Only. Proceedings SPIE 11597, Medical Imaging 2021: Computer-Aided Diagnosis; 1159705 (2/2021). <https://doi.org/10.1117/12.2582102>

Conference - 2016 - 2020:

9. M. Salekin, G. Zamzmi, D. Goldgof, R. Kasturi, T. Ho, Y. Sun, "A First Investigation Into the Use of Deep Learning for Standardized and Continuous Assessment of Neonatal Post-Operative Pain", *IEEE International Conference on Automatic Face and Gesture Recognition (FG 2020)*, Buenos Aires, Argentina, pp. 529-533, 11/2020.
10. R. Paul, M. Schabath, R. Gillies, L. Hall, D. Goldgof, Mitigating Adversarial Attacks on Medical Image Understanding Systems, *IEEE International Symposium on Biomedical Imaging (ISBI 2020)*, Iowa City, Iowa, 4/2020.
11. J. Hausmann, M. Salekin, G. Zamzmi, D. Goldgof, R. Kasturi, Y. Sun, Automated Assessment of Postoperative Pain in Clinical Environments", *2019 IEEE Healthcare Innovations and Point of Care Technologies Conference (HI-POCT)*, Bethesda, MD, 11/2019 (abstract).
12. M. Salekin, G. Zamzmi, R. Paul, D. Goldgof, R. Kasturi, T. Ho, Y. Sun, "Harnessing the Power of Deep Learning Methods in Healthcare: Neonatal Pain Assessment from Crying Sound", *2019 IEEE Healthcare Innovations and Point of Care Technologies Conference (HI-POCT)*, Bethesda, MD, 11/2019.
13. P. Dave, D. Goldgof, L. Hall, S. Alahmari, P. Mouton, "Novel Stain Separation Method for Automatic Stereology of Immunostained Tissue Sections", *The Gerontological Society of America's 71st Annual Scientific Meeting*, Austin, TX, 11/2019 (abstract). Published as Innovation in Aging, Volume 3, Issue Supplement 1, November 2019, Page S256. <https://doi.org/10.1093/geroni/igz038.958>
14. S. Sethi, A. Singh, H. Morera, J. Edwards, L. Hall, D. Goldgof, G. Vidyarthi, "Use of Artificial Intelligence for Identification of Celiac and Vascular Lesions on Capsule Endoscopy", American College of Gastroenterology (ACG 2019) Meeting, San Antonio, TX, 10/2019 (abstract).
15. C. Collazo, B. Cara, C. Weinheimer, R. Grabau, D. Goldgof, L. Hall, S. Wickline, H. Pan, "Transferable Deep Learning Algorithms for Identifying Area At Risk in Acute Myocardial Infarction", *IEEE BMES 2019 Annual Meeting*, Philadelphia, PA, 10/2019 (abstract).
16. R. Patel, S. Alahmari, D. Goldgof, H. Phoulady, P. Dave, L. Hall, P. Mouton "Stereological analysis of neurodegeneration and neuroinflammation in Tg4510 mice using manual and automatic stereology", *Neuroscience 2019*, Chicago, IL, 10/2019 (abstract).

17. S. Alahmari, D. Goldgof, L. Hall, P. Mouton, "Automatic Cell Counting using Active Deep Learning and Unbiased Stereology", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2019)*, Bari, Italy, 10/2019.
18. M. Salekin, G. Zamzmi, D. Goldgof, R. Kasturi, T. Ho, Y. Sun "Multi-Channel Neural Network for Assessing Neonatal Pain from Videos", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2019)*, Bari, Italy, 10/2019.
19. K. Ahmed, L. Hall, R. Liu, R. Gatenby, D. Goldgof, "Neuroimaging Based Survival Time Prediction of GBM Patients Using CNNs from Small Data", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2019)*, Bari, Italy, 10/2019.
20. M. McNitt-Gray, S. Napel, J. Kalpathy-Cramer, A. Jaggi, D. Cherezov, D. Goldgof, H. Yang, E. Jones, M. Muzi, N. Emaminejad, M. Wahl-Anwar, Y. Balagurunathan, M. Abdalah, B. Zhao, L. Hadjyiski, L. Pierce, K. Farahani, "Standardization in Quantitative Imaging: A Comparison of Radiomics Feature Values Obtained by Different Software Packages On a Set of Digital Reference Objects", *AAPM 61th Annual Meeting*, San Antonio, TX, 7/2019 (abstract).
21. G. Zamzmi, R. Paul, D. Goldgof, R. Kasturi, Y. Sun, "Automatic Pain Assessment From Facial Expression: Neonatal Convolutional Neural Network (N-CNN)", *The International Joint Conference on Neural Networks (IJCNN)*, Budapest, Hungary, 7/2019.
22. JB. Subils, J. Perez, P. Liu, S. Engram, C. Cetin, D. Goldgof, N. Ebner, D. Oliveira, J. Ligatti. "A Dual-Task Interference Game-Based Experimental Framework for Comparing the Usability of Authentication Methods", *IEEE International Conference on Human System Interaction (HSI)*, Richmond, VA, 6/2019.
23. J. Wang, D. Goldgof, K. Christensen, "WiCSE: Impact of a Womens Support Group on Increasing the Percentage of Women Students in a Department of Computer Science and Engineering", *American Society of Engineering Education (ASEE) Annual Meeting*, Tampa, FL, 6/2019.
24. C. Cetin, J. Ligatti, D. Goldgof, "SQL-Identifier Injection Attacks", *IEEE Conference on Communications and Network Security*, Washington, DC, 6/2019.
25. J. Ligatti, C. Cetin, S. Engram, JB. Subils, D. Goldgof, "Coauthentication", *The 34th ACM Symposium On Applied Computing (SAC 2019)*, Limassol, Cyprus, 4/2019.
26. R. Paul, D. Cherezov, M. Schabath, R. Gillies, L. Hall, D. Goldgof, "Towards deep radiomics: nodule malignancy prediction using CNNs on feature images", *SPIE Medical Imaging 2019*, San Diego, CA, 2/2019.
27. G. Zamzmi, D. Goldgof, R. Kasturi, Y. Sun, Toward Continuous Assessment of Neonatal Pain Using Computer Vision, *The Opioid Crisis and the Future of Addiction and Pain Therapeutics: Opportunities, Tools, and Technologies Symposium*, NIH Campus, Bethesda, MD, 02/2019 (abstract)
28. C. Pai, H. Morera, K. Hall, L. Cowan, S. Sarkar, M. Petersen, D. Goldgof, "Automatic pressure ulcer measurement using RGB-D data", *SPIE Medical Imaging 2019*, San Diego, CA, 2/2019. Proc. SPIE 10953, Medical Imaging 2019: Biomedical Applications in Molecular, Structural, and Functional Imaging, 1095320 (15 March 2019); doi: 10.1117/12.2512535.
29. S. Alahmari, D. Goldgof, L. Hall, P. Dave, H. Phoulady, P. Mouton, "Iterative Deep Learning Based Unbiased Stereology With Human-in-the-Loop", *17th International Conference on Machine Learning and Applications (ICMLA)*, Orlando, FL, 12/2018
30. G. Zamzmi, D. Goldgof, R. Kasturi, Y. Sun, "Toward Ubiquitous Assessment of Neonates' Health Condition", *2018 ACM International Joint Conference and 2018 International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers (UbiComp 2018)*, pp. 952-955, Singapore, 10/2018.
31. M. Peterson, C. Pai, H. Morera, K. Hall, L. Cowan, P. Toyinbo, S. Sarkar, D. Goldgof, "Automated Pressure Ulcer Measurement for Veterans with Spinal Cord Injury", *Advanced Treatments and Technologies in Wound Care*, London, UK, 10/2018 (abstract only).
32. R. Paul, L. Hall, D. Goldgof, M. Schabath, R. Gillies, "Predicting Nodule Malignancy using a CNN Ensemble Approach", *The International Joint Conference on Neural Networks (IJCNN)*, Rio, Brazil, 7/2018.
33. R. Paul, Y. Liu, Q. Li, L. Hall, D. Goldgof, Y. Balagurunathan, M. Schabath, R. Gillies, "Representation of Deep Features using Radiologist defined Semantics", *The International Joint Conference on Neural Networks (IJCNN)*, Rio, Brazil, 7/2018.
34. R. Paul, M. Shafiq-ul-Hassanb, E. Moros, R. Gillies, L. Hall, D. Goldgof, "Stability of deep features across CT scanners and field of view using a physical phantom", *SPIE Medical Imaging 2018*, Houston, TX, 2/2018.

35. J. Kalpathy-Cramer, B Zhao, D Goldgof, S Napel, D L Rubin, M F McNitt-Gray, J Sieren, I Yeung, L Hadjiiski, Y Balagurunathan, A Beers, "Standardizing Radiomic Feature Descriptions for Quantitative Imaging: A Preliminary Report of the Cooperative Efforts of the NCI's QIN PET-CT Subgroup", Education Exhibit, RSNA 2017, Chicago, IL, 12/2017
36. R. Liu, L. Hall, K. Bowyer, D. Goldgof, R. Gatenby, K. Ahmed, "Synthetic Minority Image Over-sampling Technique: How to Improve AUC for Glioblastoma Patient Survival Prediction", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2017)*, Bunff, Canada, 10/2017.
37. R. Ekambaram, D. Goldgof, L. Hall, "Finding Label Noise Examples in Large Scale Datasets", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2017)*, Bunff, Canada, 10/2017.
38. G. Alzamzmi, C. Pai, D. Goldgof, R. Kasturi, T. Ashmeade, Y. Sun, "Automated Pain Assessment in Neonates", *Scandinavian Conference on Image Analysis (SCIA 2017)*, Tromso, Norway, 6/2017.
39. G. Alzamzmi, D. Goldgof, R. Kasturi, Y. Sun, T. Ashmeade, "Automated Multimodal Assessment of Infants Pain", *Pediatric Academic Societies (PAS) 2017 Meeting*, San Francisco, CA, 5/2017 (abstract).
40. K. Ahmed, . Hall, D. Goldgof, R. Liu, R. Gatenby, "Fine-Tuning Convolutional Deep Features For MRI Based Brain Tumor Classification", *SPIE Medical Imaging 2017*, Orlando, CA, 2/2017.
41. G. Alzamzmi, D. Goldgof, R. Kasturi, Y. Sun, T. Ashmeade, C. Pai, "An Approach for Automated Multimodal Analysis of Infants Pain", *International Conference on Pattern Recognition (23rd ICPR)*, Cancun, Mexico, 12/2016.
42. H. Phoulady, D. Goldgof, L. Hall, M. Gordon, D. Morgan, "Tg4510 Mice Provide an Effective Model for Testing Neuroprotective Therapies in Early Stage Alzheimers Disease, 2016 Annual Meeting of the Society For Neuroscience, San Diego, CA, 11/2016 (abstract).
43. D. Cherezov, S. Hawkins,, D. Goldgof, L. Hall, Y. Balagurunathan, R. Gillies, M. Schabath, "Improving Prediction through Selecting Features Informed by Nodule Size Ranges in NLST", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2016)*, Budapest, Hungary, 10/2016.
44. R. Paul, S, Hawkins, L. Hall , D. Goldgof, R. Gillies, "Combining Deep Neural Network and Traditional Image Features to Improve Survival Prediction Accuracy for Lung Cancer Patients from Diagnostic CT", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2016)*, Budapest, Hungary, 10/2016.
45. H. Farhidzadeh, B. Chudhury, J. Scott, D. Goldgof, L. Hall, R. Gatenby, R. Gillies, M. Raghavan, "A Quantitative Histogram-based Approach to Predict Treatment Outcome for Soft Tissue Sarcoma Using Pre- and Post-treatment MRIs", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2016)*, Budapest, Hungary, 10/2016.
46. H. Phoulady, M. Zhou, D. Goldgof, L. Hall, P. Mouton, "Automatic Quantification and Classification of Cervical Cancer via Adaptive Nucleus Shape Modeling", *IEEE International Conference on Image Processing (ICIP 2016)*, Phoenix, AZ, 9/2016.
47. R. Liu, L. Hall, D. Goldgof, M. Zhou, R. Gatenby, K. Ahmed, "Exploring Deep Features from Brain Tumor Magnetic Resonance Images via Transfer Learning", *2016 International Joint Conference on Neural Networks, (IJCNN 2016)*, Vancouver, Canada, 7/2016.
48. H. Phoulady, D. Goldgof, L. Hall, P. Mouton, "An Approach to Detect and Segment Overlapping Cells in MultiLayer Cervical Cell Volume Images", *IEEE International Symposium on Biomedical Imaging (ISBI 2016)*, Prague, Czech Republic, 4/2016.
49. B. Chaudhury, M. Zhou, D. Goldgof, L. Hall, R. Gatenby, R. Gillies, J. Drukeinis, "Predicting Ki67% expression from DCE-MR images of breast tumors using textural kinetic features in tumor habitats", *SPIE Medical Imaging 2016*, San Diego, CA, 2/2016.
50. H. Phoulady, D. Goldgof, L. Hall, P. Mouton, "Histology image segmentation with hierarchical multi-level thresholding", *SPIE Medical Imaging 2016*, San Diego, CA, 2/2016.
51. B. Geiger, S. Hawkins, L. Hall, D. Goldgof, Y. Balagurunathan, R. Gatenby, R. Gillies, "Change Descriptors for Predicting Tumor Malignancy in NLST CT Screening Images", *SPIE Medical Imaging 2016*, San Diego, CA, 2/2016.
52. H. Farhidzadeh, J. Scott, D. Goldgof, L. Hall, R. Gatenby, R. Gillies, M. Raghavan, "Signal Intensity Analysis of Ecological Defined Habitat in Soft Tissue Sarcomas to Predict Metastasis Development", *SPIE Medical Imaging 2016*, San Diego, CA, 2/2016.
53. H. Farhidzadeh, J. Kim, J. Scott, D. Goldgof, L. Hall, L. Harrison, "Classification of Recurrence Free Survival Nasopharyngeal Carcinoma Tumors", *SPIE Medical Imaging 2016*, San Diego, CA, 2/2016.

54. M. Schabath, Y. Liu, H. Wang, O. Stringfield, Y. Balagurunathan, A. Garcia, L. Hall, D. Goldgof, R. Gillies, "Diagnostic and predictive quantitative-imaging features in lung cancer screening" *Fourth AACR-IASLC International Joint Conference: Lung Cancer Translational Science from the Bench to the Clinic*, San Diego, CA, 1/2016 (abstract).
55. M. Schabath, Y. Balagurunathan, A. Garcia, D. Goldgof, L. Hall, S. Hawkins, O. Stringfield, Q. Li, Y. Liu, R. Gillies, "Radiomics of lung cancer", *Fourth AACR-IASLC International Joint Conference: Lung Cancer Translational Science from the Bench to the Clinic*, San Diego, CA, 1/2016 (abstract).

Conference - 2011 - 2015:

56. M. Raghavan, H. Farhidzadeh, L. Hall, D. Goldgof, R. Gillies, R. Gatenby, "MRI Defined Ecologic Habitats in Extremity Soft Tissue Sarcomas: Characterization and Quantification of Tumor Heterogeneity and Potential Implications on Patient Outcomes-Early Experience", *Radiology Society of North America (RSNA) Annual Meeting*, Chicago, IL, 12/2015.
57. H. Farhidzadeh, D. Goldgof, L. Hall, R. Gatenby, R. Gillies, M. Raghavan, "Texture feature analysis to predict metastatic and necrotic soft tissue sarcomas" *IEEE International Conference on Systems, Man and Cybernetics (SMC 2015)*, Hong Kong, 10/2015.
58. H. Zhou, D. Goldgof, S. Hawkins, L. Wei, Y. Liu, D. Creighton, R. Gillies, L. Hall, S. Nahavandi, "A robust approach for automated lung segmentation in thoracic CT", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2015)*, Hong Kong, 10/2015.
59. B. Chaudhury, D. Goldgof, L. Hall, R. Gatenby, R. Gillies, J. Drukteinis, "Correlation based random subspace ensembles for predicting number of axillary lymph node metastases in breast DCE-MRI tumors", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2015)*, Hong Kong, 10/2015.
60. H. Farhidzadeh, B. Chaudhury, M. Zhou, D. Goldgof, L. Hall, R. Gatenby, M. Raghavan, "MRI Texture Feature Analysis - Prediction of Metastasis and Histologic Response in Extremity Soft Tissue Sarcoma", *International Skeletal Society 42nd Annual Meeting*, Maui, Hawaii, 9/2015 (abstract).
61. G. Alzamzmi, D. Goldgof, R. Kasturi, Y. Sun, T. Asmeade, G. Ruiz, "Pain Assessment in Infants: Towards Spotting the Pain Expression Based on the Facial Strain", *3rd International Workshop on Emotion Representation, Analysis and Synthesis in Continuous Time and Space (EmoSPACE 2015)*, Ljubljana, Slovenia, 5/2015.
62. H. Phoulady, D. Goldgof, L. Hall, P. Mouton, "An Approach for Overlapping Cell Segmentation in Multi-Layer Cervical Cell Volumes", *The Second Overlapping Cervical Cytology Image Segmentation Challenge*, IEEE ISBI, New York, NY, 4/2015, 1st Place.
63. B. Chaudhury, M. Zhou, D. Goldgof, L. Hall, R. Gatenby, R. Gillies, J. Drukteinis, "Identifying metastatic breast tumors using textural kinetic features of a contrast based habitat in DCE-MRI", *SPIE Medical Imaging 2015*, Orlando, FL, 2/2015.
64. H. Farhidzadeh, B. Chaudhury, M. Zhou, D. Goldgof, L. Hall, R. Gatenby, M. Raghavan, "Prediction of treatment outcome in soft tissue sarcoma based on radiologically defined habitats", *SPIE Medical Imaging 2015*, Orlando, FL, 2/2015.
65. M. Zhou, L. Hall, D. Goldgof, R. Gillies, R. Gatenby, "Decoding brain cancer dynamics: a quantitative histogram-based approach using temporal MRI", *SPIE Medical Imaging 2015*, Orlando, FL, 2/2015.
66. M. Zhou, L. Hall, D. Goldgof, R. Gillies, R. Gatenby, "Imbalanced learning for clinical survival group prediction of brain tumor patients", *SPIE Medical Imaging 2015*, Orlando, FL, 2/2015.
67. H. Phoulady, B. Chaudhury, D. Goldgof, L. Hall, P. Mouton, A. Hakam, E. Siegel, "Experiments in Large Ensemble for Segmentation and Classification of Cervical Cancer Biopsy Images", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2014)*, San Diego, CA, 10/2014.
68. J. Brizzi, M. Shreve, Dmitry Goldgof, S. Sarkar, "Optical Flow based Expression Suppression in Video", *22nd International Conference on Pattern Recognition (ICPR)*, pp. 1817-1821, doi: 10.1109/ICPR.2014.98, Stockholm, Sweden, 8/2014.
69. M. Zhou, L. Hall, D. Goldgof, R. Gillies, R. Gatenby, "Exploring Brain Tumor Heterogeneity for Survival Time Prediction", *International Conference on Pattern Recognition (ICPR)*, Stockholm, Sweden, 8/2014.
70. R. Kasturi, D. Goldgof, R. Ekambaram, G. Pratt, E. Krotkov, D. Hackett, et al., "Performance Evaluation of Neuromorphic-Vision Object Recognition Algorithms", *International Conference on Pattern Recognition (ICPR)*, Stockholm, Sweden, 8/2014.

71. M. Schabath, P. Massion, Z. Thompson, Y. Balagurunathan, D. Goldgof, S. Eschrich, R. Gillies, "Survival of patients with incident lung cancer following screening by computed tomography in the National Lung Screening Trial", *American Association for Cancer Research Annual Meeting*, San Diego, CA, 4/2014 (abstract).
72. J. Drukteinis, B. Chaudhury, L. Hall, D. Goldgof, R. Gillies, R. Gatenby, "Evolutionary dynamics in breast cancer via MRI textural kinetic analysis" *American Association for Cancer Research Annual Meeting*, San Diego, CA, 4/2014 (abstract).
73. Y. Balagurunathan, V. Kumar, Y. Gu, D. Goldgof, L. Hall, R. Gillies, "Test Retest Study in CT Images", *Society fo Imaging Informatics in Medicine Annual Meeting (SIIM 2014)*, Long Beach, CA, 5/2014 (abstract).
74. M. Raghavan, H. Farhidzadeh, M. Zhou, D. Goldgof, L. Hall, R. Gatenby, "Image based prediction of treatment response and disease course in extremity soft tissue sarcoma", *Society of Skeletal Radiology 2014 Annual Meeting*, San Diego, CA, 3/2014 (abstract).
75. B. Chaudhury, L. Hall, D. Goldgof, R. Gatenby, R. Gillies, J. Drukteinis, "New method for predicting estrogen receptor status utilizing breast MRI texture kinetic analysis", *SPIE Medical Imaging 2014*, San Diego, CA, 2/2014.
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77. J. Kalpathy-Cramer, B. Zhao, D. Goldgof, Y. Gu, X. Wang, S. Napel, H. Yang, Y. Tan, "A platform for the comparison of lung nodule segmentation algorithms: methods and preliminary results" *Radiology Society of North America (RSNA) Annual Meeting*, Chicago, IL, 12/2013.
78. M. Zhou, L. Hall, D. Goldgof, R. Gatenby, R. Gillies, "A Texture Feature Ranking Model for Predicting Clinical Survival Time on Brain Tumor", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2013)*, Manchester, UK, 10/2013.
79. H. Krewer, B. Geiger, L. Hall, D. Goldgof, Y. Gu, M. Tockman, R. Gillies, "Effect of Texture Features in Computer Aided Diagnosis of Pulmonary Nodules in Low-Dose Computed Tomography", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2013)*, Manchester, UK, 10/2013.
80. B. Chaudhury, H. Phoulady, D. Goldgof, L. Hall, P. Mouton, "An Ensemble Algorithm Framework for Automated Stereology of Cervical Cancer ", *The International Conference on Image Analysis and Processing (ICIAP)*, Naples, Italy, 9/2013.
81. S. Fefilatyeu, M. Shreve, D. Goldgof, "Detection of the Vanishing Line of the Ocean Surface from Pairs of Scale-Invariant Keypoints ", *The International Conference on Image Analysis and Processing (ICIAP)*, Naples, Italy, 9/2013.
82. M. Segundo, S. Sarkar, D. Goldgof, L. Silva, O. Bellon, "Continuous 3D Face Authentication using RGB-D Cameras", *IEEE Biometrics Workshop, CVPR 2013*, Portland, OR, 6/2013.
83. M. Raghavan, M. Zhou, L. Hall, D. Goldgof, R. Gatenby, "Radiomics of Sarcoma-Computer Aided Image Analysis and Characterization of Tumor Heterogeneity", *Socoety of Skeletal Radiology 2013 Annual Meeting*, San Antonio, TX, 3/2013, (abstract).
84. M. Zhou, L. Hall, D. Goldgof, R. Gatenby, "Survival time prediction of patients with glioblastoma multiforme tumors using spatial distance measurement", *SPIE Medical Imaging 2013*, Orlando, FL, 2/2013.
85. M. Shreve, S. Fefilatyeu, N. Bonilla, G. Hernandez, D. Goldgof, S. Sarkar, "Method for Calculating View-Invariant 3D Optical Strain". *IAPR International Workshop on Depth Image Analysis*, Tsukuba Science City, Japan, 11/2012, (Published in Springer "Advances in Depth Image Analysis and Applications", *Lecture Notes in Computer Science*, Volume 7854/2013, pp. 42-49.
86. S. Fefilatyeu, M. Shreve, K' Kramer, L. Hall, D. Goldgof, R. Kasturi, K. Daly, A. Remsen, H. Bunke, "Label-Noise Reduction with Support Vector Machines", *International Conference on Pattern Recognition (ICPR)*, Tsukuba Science City, Japan, 11/2012.
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88. S. Fefilatyeu, K. Kramer, L. Hall, D. Goldgof, R. Kasturi, A. Remsen, K. Daly, "Detection of Anomalous Particles from Deepwater Horizon Oil Spill Using SIPPER3 Underwater Imaging Platform", *Fourth Workshop on Data Mining Case Studies, IEEE International Conference on Data Mining(ICDM)*, Vancouver, Canada, 12/2011, *Data Mining Practice Prize*.

89. S. Basu, L. Hall, D. Goldgof, Y. Gu, V. Kumar, J. Choi, R. Gilles, R. Gatenby, "Developing a Classifier Model for Lung Tumors in CT-scan Images", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2011)*, Anchorage, Alaska, 10/2011.
90. J. Korecki, L. Hall, D. Goldgof, S. Eschrich, "Procedure for Stability Analysis of Gene Selection from Cross-Site Gene Expression Data", *IEEE International Conference on Systems, Man and Cybernetics (SMC 2011)*, Anchorage, Alaska, 10/2011
91. S. Basu, L. Hall, D. Goldgof, Y. Gu, V. Kumar, R. Gatenby, R. Gillies, "Classifying lung tumors from CT-scan images based on 3D image features", *2011 World Molecular Imaging Congress*, San Diego, CA, 9/2011 (abstract only).
92. Y. Gu, V. Kumar, L. Hall, D. Goldgof, R. Korn, C. Bendtsen, R. Gatenby, R. Gillies, "Automated Delineation of Lung Tumors from CT Images: Method and Evaluation", *2011 World Molecular Imaging Congress*, San Diego, CA, 9/2011 (abstract only).
93. V. Kumar, Y. Gu, J. Kim, R. Korn, B. Zhaou, D. Goldgof, L. Hall, R. Gatenby, R. Gillies, "Radiomics of Lung Cancer: Test Retest Reproducibility of Quantitative CT Image Features", *2011 World Molecular Imaging Congress*, San Diego, CA, 9/2011 (abstract only).
94. M. Shreve, N. Jain, D. Goldgof, S. Sarkar, W. Kropatsch, C. Tzou, M. Frey, "Evaluation of Facial Reconstructive Surgery on Patients with Facial Palsy using Optical Strain", *IAPR 14th International Conference on Computer Analysis of Images and Patterns (CAIP)*, Seville, Spain, 8/2011. (Published in Springer Lecture Notes in Computer Science, 2011, Volume 6854/2011, 512-519.)
95. M. Shreve, S. Godavathy, D. Goldgof, S. Sarkar "Macro- and Micro-Expression Spotting in Long Videos Using Spatio-temporal Strain", *IEEE International Conference on Automatic Face and Gesture Recognition (FG 2011)*, Santa Barbara, CA, 3/2011.
96. K. Kramer, D. Goldgof, L. Hall, A. Remsen, "Increased Classification Accuracy and Speedup Through Pair-wise Feature Selection for Support Vector Machines", *IEEE SSCI: Symposium on Computational Intelligence and Data Mining*, pp. 318-324, Paris, France, 4/2011.
97. D. Elozory, O. Bonam, K. Kramer, D. Goldgof, L. Hall, O. Mangual, P. Mouton, "Automatic Location of Microscopic Focal Planes for Computerized Stereology" *SPIE Medical Imaging 2011*, Orlando, FL, 2/2011.
98. O. Bonam, D. Elozory, K. Kramer, D. Goldgof, L. Hall, O. Mangual, P. Mouton, "Toward Automated Quantification of Biological Microstructures Using Unbiased Stereology" *SPIE Medical Imaging 2011*, Orlando, FL, 2/2011.

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