

DerekAnderson

September 11, 2017

Associate Professor and Robert D. Guyton Chair
Co-Director, Sensor Analysis and Intelligence Lab (SAIL)
Associate Editor, IEEE Trans. on Fuzzy Systems (TFS)

Phone: 662.325.3530
Address: 237 Simrall Bldg. | Mississippi State, MS 39762
E-mail: anderson@ece.msstate.edu, dtaxtd@gmail.com
Website: <http://www.derekanderson.com>

RESEARCH INTERESTS

Theory: Data/information fusion in pattern recognition/machine learning and automated decision making.

Domain: Signal/image processing, scene/environment understanding and computer vision.

Emphasis: Multi-*source* (sensor, algorithm and human) fusion, multi-sensor systems and remote sensing.

To date, my **primary contributions** include:

- **Aggregation:** new mathematics for capacities and Choquet integral (ChI) w.r.t.: uncertainty; missing data; efficient and flexible compression, calculation and learning; feature and decision-level fusion via multiple kernel learning; fusions of ChIs; binary capacities and integrals; data-driven crowd sourcing;
- **Multi-source:** anomaly detection, feature extraction and classification in forward-looking and hand-held infrared, visual, acoustic, electromagnetic induction and radar (1, 2 and 3 dimensional);
- **Clustering:** flexible and scalable measures for validation, candidate space reduction and discovery;
- **Hyperspectral:** cluster validity indices to evaluate clustering, endmember, proportion quality; feature and decision level band group fusion; fusion in light of spatial ambiguity (multiple instance learning);
- **Remote sensing:** automatic target recognition & geo-location in satellite imagery and 3D terrain data;
- **Computer vision:** scene/environment understanding; signal/feature learning; multi-camera human surveillance and linguistic summarization of human behavior in video data.

EDUCATION

University of Missouri, Columbia, MO

Ph.D., Electrical and Computer Engineering, August 2010

Thesis: Linguistic summarization of human activity in video (advisor: James Keller; co-adv: M. Skubic)

M.S., Computer Science, August 2005

Thesis: An investigation of humanoid skill primitives as sensory patterns (for NASA Robonaut)

Wichita State University, Wichita, KS

B.S., Computer Science with a minor in Mathematics, May 2002

PROFESSIONAL EXPERIENCE

Associate Prof. in Elec. & Comp. Eng. (ECE), Mississippi State University	(2017 – present)
Intermittent Faculty Appointment, Naval Research Laboratory	(2012-present)
Assistant Professor in ECE, MSU	(2011-2017)
Adjunct Assistant Professor in ECE, University of Missouri	(2011 – 2014)
Research Assistant Professor in ECE, University of Missouri	(2010-2011)
Predocotrual Fellow, National Library of Medicine	(2006-2010)
Curriculum Design in Information Technology, University of Missouri	(2009-2010)
Resident Instructor in Information Technology, University of Missouri	(2006-2008)
Graduate Research Assistant, University of Missouri	(2005-2006)
Graduate Teaching Instructor in Computer Science, University of Missouri	(2003-2005)
Summer Predocotrual Fellowship, National Library of Medicine	(2004)
Interoperability Technician, LSI Corporation	(2001-2002)
Performance Analyst, LSI Corporation	(1999-2001)

GRANTS (13 GRANTS - \$6,729,096 TOTAL)

1. **Robust Electronic Warfare (EW) Processing and UAV Multi-Agent Coordination**, \$555,813, 2015-2017. Research funded by Clarkson Aerospace Corp & Air Force Research Lab (AFRL). PI is John Ball. Derek T. Anderson and Christopher Archibald are co-investigators (co-PIs).

2. **Transparent Embedding of Multi-Source Fusion into Pattern Analysis for Handheld Explosive Hazard Detection**, \$964,109, 2014-2017. Research funded by Army Research Office (ARO) and Night Vision and Electronics Sensors Directorate Science and Technology Division (NVESD STD). Derek T. Anderson (PI), John Ball (co-PI) and Matthew Lee (co-PI).
3. **Multi-Source Fusion for Explosive Hazard Detection in Forward Looking Sensors**, \$533,420, 2014-2017. Research funded by Army Research Office (ARO) and Night Vision and Electronics Sensors Directorate Countermeasure Division (NVESD). Sole PI.
4. **SimBRS: WD 62, HPC-Based Sensor Analytics, Topic 1, HPC-Based Multi-Source Fusion and Analytics**, \$388,500 (amount for our task), 2015-2016. U.S. Army Engineer Research and Development Center (ERDC). Overall PI is Roger King. Investigators for our task are Derek Anderson (PI), Nicholas Younan (co-PI) and Jenny Du (co-PI).
5. **CRES-GV: HPC-Based Antenna and Multi-Sensor Ground Vehicle Placement**, \$669,877 (amount for our task), 2013-2018. U.S. Army Engineer Research and Development Center (ERDC). PI is Roger King. Investigators for our task are Erdem Topsakal (PI for 2013-2015), Pat Donohoe (PI for 2015-2018), and Derek T. Anderson (co-PI).
6. **SimBRS: WD 67, Modeling and Simulation of Multi-Physics Material Response in Geo-Environments**, \$965,419 (amount for our task), 2016-2017. TACOM. Overall PI is Roger King. Investigators for our task; John Ball (PI), Derek Anderson (co-PI), Nicolas Younan (co-PI), Pat Donohoe (co-PI) and Mehmet Kurum (co-PI).
7. **[ended] Signal and Image Processing for Camgian**, \$5,000, 2015-2016. Research (consultant) funded by Camgian Microsystems. PI is Derek T. Anderson.
8. **[ended] IVPED: HPC-Based Antenna/Multi-Sensor Analysis and Placement Tools for Ground Vehicles in Dynamic Environments**, \$839,039 (amount for our task), 2014-2015. Consortium for Energy, Environment and Demilitarization (CEED). PI is Roger King. Investigators for our task are Erdem Topsakal, Derek Anderson (co-PI), Pat Donohoe, Pan Li, John Ball and Nicholas Younan.
9. **[ended] Fusion of Heterogeneous Big Data**, \$497,430 (\$54,290 my portion of the grant), 2014-2015. Research funded by Idaho Bailiff. PI is Dave Dampier, co-PI is Tommy Morris. James Fowler leader of our task (co-PIs: Derek T. Anderson, Nicholas Younan, John Ball, Pan Li, Jenny Du).
10. **[ended] Graphical User Interface for a Multi-Factorial Age-at-Death Estimation Method using Fuzzy Integrals**, \$417,595 total (\$192,743 at MSU), 2012-2015. National Institute of Justice. Sub-contractor (but grant co-PI) at MSU. PI at Texas State University is Dr. Wescott
11. **[ended] GPU-accelerated DBMS for Terrain Geolocation with Human Perspective View Verification**, \$458,969 total (\$178,692) at MSU, 2012-2014. Defense Advanced Research Projects Agency. PI at MSU. PI at Center for Geospatial Intelligence, University of Missouri, Dr. Scott.
12. **[ended] Detection of Explosive Hazards in Forward Looking Imagery**, \$183,925, 2011-2014. Sub-contract with University of Missouri (PI at MU, Dr. Keller). Work funded by ARO/NVESD.
13. **[ended] A System Prototype Study of Connecting Soldiers to Digital Applications Surge for the Basic Officer Leadership Course**, Military Police Schoolhouse, Fort Leonard Wood, MO, \$250,000 total, 2010. Leonard Wood Institute (LWI). Co-PI.

RESEARCH LABORATORIES

1. **Sensor Analysis and Intelligence Laboratory (SAIL):** The *Center for Advanced Vehicular Systems* (CAVS) at MSU is an interdisciplinary center of research, engineering design and development, and technology transfer teams for industry and government partners. **Prof. Anderson** (ECE), Prof Ball (ECE) and Prof Archibald (CSE) co-direct SAIL at CAVS. SAIL has a number of unique state-of-the-art equipment, from lightweight push-broom hyperspectral VNIR (400-1000) sensors to thermal (mid (3-5 μ) and longwave (8-12 μ)), stereoscopic, LiDAR and Radar. SAIL is a multidisciplinary collaborative research laboratory focused on multi-sensor fusion, scene understanding and sensor characterization. Applications to date include, humanitarian demining (U.S. Army NVESD), Big Data sensor analytics and autonomous vehicles (ERDC), robotics (collaboration with Prof. Bethel/STARS lab) and UAV-

based remote sensing (collaboration with Prof. Moorhead/*Geosystems Research Institute (GRI)* at MSU). MSU is also a FAA certified Center for Excellence for Unmanned Aircraft Systems (ASSURE).

BOOKS, BOOK CHAPTERS AND HIGHLIGHT ARTICLES (PUBLISHED=2)

1. [Book Chapter] T.C. Havens, **D.T. Anderson**, K. Stone and J. Becker, "Computational Intelligence Methods in Forward-Looking Explosive Hazard Detection," *Recent Advancements in Computational Intelligence in Defense and Security*, Springer, 2015.
2. [Highlight Article] **D.T. Anderson**, S.R. Price, T.C. Havens, A. Pinar, "Computational intelligence in forward-looking explosive hazard detection", SPIE newsroom, Dec 23rd, 2015.

TOTAL JOURNAL AND CONFERENCE ARTICLES (PUBLISHED=110)

JOURNAL ARTICLES (PUBLISHED=25)

1. [Accepted] M. Islam, **D. T. Anderson**, A. Pinar, T. Havens, "Data-Driven Compression and Efficient Learning of the Choquet Integral," *IEEE Transactions on Fuzzy Systems*, accepted Sept, 2017.
2. [Accepted] J. E. Ball, **D. T. Anderson**, C. S. Chan, "A Comprehensive Survey of Deep Learning in Remote Sensing: Theories, Tools and Challenges for the Community," *Journal of Applied Remote Sensing (JARS)*, accepted Aug, 2017.
3. [Accepted] A. Pinar, **D. T. Anderson**, T. Havens, A. Zare, T. Adeyeba, "Measure of the Shapley Index for Learning Lower Complexity Fuzzy Integrals," *Granular Computing*, accepted May 30th, 2017.
4. [Accepted] J. Durst, **D. T. Anderson**, C. Bethel, "A historical review of the development of verification and validation theories for simulation models," *International Journal of Modeling, Simulation, and Scientific Computing*, accepted Dec. 22nd, 2016.
5. [Accepted] A. Pinar, J. Rice, L. Hu, **D. T. Anderson**, T. C. Havens, "Efficient Multiple Kernel Classification using Feature and Decision Level Fusion," *IEEE Trans. on Fuzzy Systems*, Sept., 2016.
6. [In Print] **D. T. Anderson**, P. Elmore, F. Petry, T. Havens, "Fuzzy Choquet Integration of Homogeneous Possibility and Probability Distributions," *Information Sciences*, accepted May, 2016.
7. [In Print] M. Boni, **D. T. Anderson**, R. King, "Hybrid Measure of Agreement and Expertise for Ontology Matching in lieu of a Reference Ontology," *International Journal of Intelligent Systems*, vol. 31 (5), pp. 502-525, 2016 (doi: 10.1002/int.21792).
8. [In Print] M. Lee, **D. T. Anderson**, John E. Ball, Nicolas Younan, "Performance Measure-Based Band Group Selection for Task Specific Multispectral Sensor Design," *Journal of Hyperspectral Remote Sens.*, vol. 5 (3), 2015.
9. [In Print] J. Fairley, S. Thompson, **D. T. Anderson**, "Time-frequency analysis of flat-pipe oscillating heat pipes," *International Journal of Thermal Sciences*, vol. 91, pp. 113-124, 2015 (doi: 10.1016/j.ijthermalsci.2015.01.001).
10. [In Print] T. C. Havens, **D. T. Anderson**, C. Wagner, "Data-Informed Fuzzy Measures for Fuzzy Integration of Intervals and Fuzzy Numbers," *IEEE Transactions on Fuzzy Systems*, vol 23 (5), pp. 1861-1875, 2015 (doi: 10.1109/TFUZZ.2014.2382133).
11. [In Print] C. Wagner, S. Miller, J. Garibaldi, **D. T. Anderson**, T. Havens, "From Interval-Valued Data to General Type-2 Fuzzy Sets," *IEEE Transactions on Fuzzy Systems*, vol. 23 (2), pp. 248-269, 2015 (doi: 10.1109/TFUZZ.2014.2310734).
12. [In Print] **D. T. Anderson**, T. C. Havens, C. Wagner, J. M. Keller, M. F. Anderson, D. J. Wescott, "Extension of the Fuzzy Integral for General Fuzzy Set-Valued Information," *IEEE Transactions on Fuzzy Systems*, vol. 22 (6), pp. 1625-1639, 2014 (doi: 10.1109/TFUZZ.2014.2302479).

13. [In Print] A. Zare, **D. T. Anderson**, "Earth Movers Distance-Based Simultaneous Comparison of Hyperspectral Endmembers and Proportions," *IEEE Jour. of Selected Topics in Applied Earth Obs. and Remote Sens.*, vol 7 (6), pp. 1-12, 2014 (doi: 10.1109/JSTARS.2013.2279753).
14. [In Print] **D. T. Anderson**, A. Zare, S. Price, "Comparing Fuzzy, Probabilistic and Possibilistic Partitions Using the Earth Movers Distance," *IEEE Transactions on Fuzzy Systems*, vol. 21 (4), pp. 766-775, 2013, doi: 10.1109/TFUZZ.2012.2230181.
15. [In Print] **D. T. Anderson**, M. Ros, J. Keller, M. Cuellar, M. Popescu, M. Delgado, A. Villa, "Similarity measure for anomaly detection and comparing human behaviors," *Intl. Jour. of Int. Sys.*, vol. 27 (8), pp. 733-756, 2012, doi: 10.1002/int.21544.
16. [In Print] **D. T. Anderson**, A. Zare, "Spectral Unmixing Cluster Validity Index for Multiple Sets of Endmembers", *IEEE Jour. of Selected Topics in Applied Earth Obs. and Remote Sens.*, vol. 5 (4), pp. 1282-1295, 2012, doi: 10.1109/JSTARS.2012.2189556.
17. [In Print] **D. T. Anderson**, K. Stone, J.M. Keller, C. Spain, "Combination of Anomaly Algorithms and Image Features for Explosive Hazard Detection in Forward Looking Infrared Imagery," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 5 (1), pp. 313-323, 2012, doi: 10.1109/JSTARS.2011.2178119.
18. [In Print] **D. T. Anderson**, J. C. Bezdek, M. Popescu, J. M. Keller, "Comparing Fuzzy, Probabilistic, and Possibilistic Partitions," *IEEE Transactions on Fuzzy Systems*, vol. 18 (5), pp. 906-918, 2010, doi: 10.1109/TFUZZ.2010.2052258.
19. [In Print] M. Anderson, **D. T. Anderson**, D. Wescott, "Estimation of Adult Skeletal Age-at-Death Using the Sugeno Fuzzy Integral," *American Journal of Physical Anthropology*, vol. 142 (1), pp. 30-41, 2009.
20. [In Print] **D. T. Anderson**, R. H. Luke, J. M. Keller, M. Skubic, M. Rantz, M Aud, "Linguistic Summarization of Video for Fall Detection Using Voxel Person and Fuzzy Logic," *Computer Vision and Image Understanding*, vol. 113 (1), pp. 80-89, 2009.
21. [In Print] **D. T. Anderson**, R. H. Luke, J. M. Keller, M. Skubic, M. Rantz, M Aud, "Modeling Human Activity From Voxel Person Using Fuzzy Logic," *IEEE Transactions on Fuzzy Systems*, vol. 17 (1), pp. 39-49, 2009.
22. [In Print] M. Rantz, M. Aud, G. Alexander, B. Wakefield, M. Skubic, R. Luke, **D. T. Anderson**, J. M. Keller, "Falls, Technology, and Stunt Actors," *Journal of Nursing Care Quality*, vol. 23 (3), pp. 195-201, 2008.
23. [In Print] **D. T. Anderson**, R. H. Luke, J. M. Keller, "Speedup of Fuzzy Clustering Through Stream Processing on Graphics Processing Units," *IEEE Transactions on Fuzzy Systems*, vol. 16, pp. 1101-1106, 2007.
24. [In Print] M. Skubic, **D. T. Anderson**, S. Blisard, D. Perzanowski, A. Schultz, "Using a Hand-Drawn Sketch to Control a Team of Robots," *Autonomous Robots*, vol. 22 (4), pp. 399-410, 2007.
25. [In Print] O. Sjahputera, J. Keller, J. Davis, K. Taylor, F. Rahmatpanah, H. Shi, **D. T. Anderson**, S. Blisard, R. Luke III, M. Popescu, G. Author, C. Caldwell, "Relational analysis of CpG islands methylation and gene expression in human lymphomas using Possibilistic c-Means and modified cluster fuzzy density," *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, vol. 4 (2), pp. 176-189, 2006.

CONFERENCE ARTICLES (PUBLISHED=85)

26. [Accepted] P. Durst, C. Goodin, **D. T. Anderson**, C. Bethel, "A Reference Autonomous Mobility Model," *WSC*, 2017

27. [*Accepted*] **D. T. Anderson**, M. Islam, R. King, N. H. Younan, J. Fairley, S. Howington, F. Petry, P. Elmore, and A. Zare, "Binary Fuzzy Measures and Choquet Integration for Multi-Source Fusion," *ICMT*, 2017.
28. [*Accepted*] R. Smith, **D. T. Anderson**, A. Zare, J. E. Ball, B. Alvey, "Genetic Programming Based Choquet Integral for Multi-Source Fusion," *FUZZ-IEEE*, 2017.
29. [*Accepted*] S. Price, **D. T. Anderson**, "Genetic Programming-Based Image Feature Learning," *CEC*, 2017.
30. [*Accepted*] M. Islam, **D. T. Anderson**, F. Petry, D. Smith, P. Elmore, "The Fuzzy Integral for Missing Data," *FUZZ-IEEE*, 2017.
31. [*Accepted*] T. Havens, C. Wagner, **D. T. Anderson**, "Efficient Modeling and Representation of Agreement in Interval-Valued Data," *FUZZ-IEEE* 2017.
32. [*Accepted*] C. Wagner, T. Havens, **D. T. Anderson**, "The Arithmetic Recursive Average as an Instance of the Recursive Weighted Power Mean," *FUZZ-IEEE* 2017.
33. [*Accepted*] S. Kabir, C. Wagner, U. Aickelin, **D. T. Anderson**, T. Havens, "Novel Similarity Measure for Interval-Valued Data Based on Overlapping Ratio," *FUZZ-IEEE* 2017.
34. [*Accepted*] A. Pinary, T. Havens, M. Islam, **D. T. Anderson**, "Visualization and Learning of the Choquet Integral With Limited Training Data," *FUZZ-IEEE* 2017.
35. [*Accepted*] R. Smith, **D. T. Anderson**, C. Bethel, C. Archibald, "Enhancement of Thermal Imagery Using a Low-Cost High-Resolution Visual Spectrum Camera for Scene Understanding," *SPIE*, 2017.
36. [*Accepted*] J. Davis, A. Bednar, C. T. Goodin, P. Durst, **D. T. Anderson**, C. Bethel, "Computational Intelligence-Based Optimization of Maximally Stable Extremal Region Segmentation for Object Detection," *SPIE*, 2017.
37. [*Accepted*] R. Smith, **D. T. Anderson**, J. E. Ball, A. Zare, B. Alvey, "Fusion of Choquet integrals for explosive hazard detection in EMI and GPR for handheld platforms," *SPIE*, 2017.
38. [*Accepted*] B. Murray, **D. T. Anderson**, R. Luke, K. Williams, J. E. Ball, "Multispectral signal processing of synthetic aperture acoustics for side attack explosive ballistic detection," *SPIE*, 2017.
39. [*Accepted*] J. Dowdy, B. Brockner, **D. T. Anderson**, K. Williams, R. Luke, "Voxel-space Radar signal processing for side attack explosive ballistic detection," *SPIE*, 2017.
40. [*In Print*] A. Pinar, J. Rice, T. C. Havens, M. Masarik, J. Burns, **D. T. Anderson**, "Explosive Hazard Detection with Feature and Decision Level Fusion, Multiple Kernel Learning, and Fuzzy Integrals," to appear in *SSCI*, 2016.
41. [*In Print*] M. Islam, **D. T. Anderson**, J. Ball, N. Younan, "Fusion of diverse features and kernels using lp-norm multiple kernel learning in hyperspectral image processing," to appear in *WHISPERS*, 2016.
42. [*In Print*] M. Islam, **D. T. Anderson**, J. E. Ball, N. Younan, "CLODD Based Band Group Selection," to appear in *IGARSS*, 2016.
43. [*In Print*] L. Tomlin, **D. T. Anderson**, C. Wagner, T. C. Havens, J. M. Keller, "Fuzzy Integral for Rule Aggregation in Fuzzy Inference Systems," to appear in *IPMU*, 2016.

44. *[In Print]* X. Du, A. Zare, J. M. Keller, **D. T. Anderson**, “Multiple Instance Choquet Integral for Classifier Fusion,” to appear in FUZZ-IEEE, 2016.
45. *[In Print]* P. Wei, J. E. Ball, **D. T. Anderson**, “Multi-Sensor Conflict Measurement and Information Fusion,” *SPIE Defense, Security, and Sensing*, 2016.
46. *[In Print]* S. R. Price, B. Murray, L. Hu, **D. T. Anderson**, T. Havens, R. Luke, J. M. Keller, “Multiple kernel based feature and decision level fusion of iECO individuals for explosive hazard detection in FLIR imagery,” *SPIE Defense, Security, and Sensing*, 2016.
47. *[In Print]* J. Dowdy, **D. T. Anderson**, R. Luke, J. E. Ball, T. Havens, J. M. Keller, “Comparison of spatial frequency domain features for the detection of side attack explosive ballistics in synthetic aperture acoustics,” *SPIE Defense, Security, and Sensing*, 2016.
48. *[In Print]* M. Lee, **D. T. Anderson**, J. E. Ball, J. White, “Background adaptive division filtering for hand-held ground penetrating radar,” *SPIE Defense, Security, and Sensing*, 2016.
49. *[In Print]* J. White, **D. T. Anderson**, J. E. Ball, B. Parker, “Curvelet filter-based prescreener for explosive hazard detection in hand-held ground penetrating radar,” *SPIE Defense, Security, and Sensing*, 2016.
50. *[In Print]* P. Wei, J. E. Ball, **D. T. Anderson**, A. Harsh, C. Archibald, “Measuring Conflict in a Multi-Source Environment as a Normal Measure,” CAMSAP, 2015.
51. *[In Print]* S. Price, **D. T. Anderson**, M. England, G. Scott, “Soft segmentation weighted iECO descriptors for object recognition in satellite imagery,” *International Geoscience and Remote Sensing Symposium*, pp. 4939-4942, July 26th, 2015.
52. *[In Print]* M. Lee, **D. T. Anderson**, J. E. Ball, N. H. Younan, “Multispectral sensor design using performance measure-based hyperspectral band grouping,” *International Geoscience and Remote Sensing Symposium*, pp. 453-456, July 26th, 2015.
53. *[In Print]* A. Pinar, T. Havens, **D. T. Anderson**, L. Hu, “Feature and decision level fusion using multiple kernel learning and fuzzy integrals,” *IEEE International Conference on Fuzzy Systems*, pp. 1-7, Aug, 2015 (doi: 10.1109/FUZZ-IEEE.2015.7337934).
54. *[In Print]* T. Adeyeba, **D. T. Anderson**, T. Havens, “Insights and Characterization of L1-norm based sparsity learning of a lexicographically encoded capacity vector for the Choquet integral,” *IEEE International Conference on Fuzzy Systems*, pp. 1-7, Aug, 2015 (doi: 10.1109/FUZZ-IEEE.2015.7337819).
55. *[In Print]* M. Islam, **D. T. Anderson**, T. Havens, “Multi-Criteria Based Learning of the Choquet Integral using Goal Programming,” submitted to *North American Fuzzy Information Processing Society*, pp. 1-6, Aug, 2015 (doi: 10.1109/NAFIPS-WConSC.2015.7284140).
56. *[In Print]* D. Shaw, K.C. Ho, J. M. Keller, M. Popescu, **D. T. Anderson**, R. H. Luke, B. Burns, “Explosive Hazard Detection using MIMO Forward-Looking Ground Penetrating Radar,” *SPIE Defense, Security, and Sensing*, 2015 (doi: doi:10.1117/12.2177468).
57. *[In Print]* S. Price, **D. T. Anderson**, T. Havens, “Fusion of iECO image descriptors for buried explosive hazard detection in forward looking imagery,” *SPIE Defense, Security, and Sensing*, May 14, 2015 (doi: 10.1117/12.2177459).

58. *[In Print]* S. Price, **D. T. Anderson**, J. M. Keller, "Design of a buried explosive hazard pre-screener in forward looking imagery based on Shearlet filtering and image processing," *SPIE Defense, Security, and Sensing*, May 14, 2015 (doi: doi:10.1117/12.2177461).
59. *[In Print]* S. Ravinder, S. Price, **D. T. Anderson**, "Extended Adaptive Mutation Operator for Training an Explosive Hazard Detection Prescreener in Forward Looking Infrared Imagery," *SPIE Defense, Security, and Sensing*, May 14, 2015 (doi: 10.1117/12.2177452).
60. *[In Print]* S. Price, **D. T. Anderson**, R. H. Luke, "An Improved Evolution-COnstructed (iECO) Features Framework," *Symposium Series on Computational Intelligence (SSCI)*, pp. 1-8, December 9-12, 2014 (doi: 10.1109/CIMSIVP.2014.7013275).
61. *[In Print]* **D. T. Anderson**, S. Price, T. C. Havens, "Regularization-Based Learning of the Choquet Integral," *IEEE Int. Conf. Fuzzy Systems*, pp. 2519-2526, 2014 (doi: 10.1109/FUZZ-IEEE.2014.6891630)
62. *[In Print]* G. Scott, K. Backus, **D. T. Anderson**, "A Multilevel Parallel and Scalable Single-Host GPU Cluster Framework for Large-scale Geospatial Data Processing," in *International Geoscience and Remote Sensing Symposium*, pp. 2475-2478, 2014 (doi: 10.1109/IGARSS.2014.6946974).
63. *[In Print]* G. Scott, M. England, K. Melkowski, Z. Fields, **D. T. Anderson**, "GPU-based PostgreSQL Extensions for Scalable High-throughput Pattern Matching," in *International Conference on Pattern Recognition*, pp. 1880-1885, 2014 (doi: 10.1109/ICPR.2014.329).
64. *[In Print]* J. Ball, **D. T. Anderson**, S. Samiappan, "Hyperspectral band selection based on the aggregation of proximity measures for automatic target detection," *SPIE Defense, Security, and Sensing*, May, 2014 (doi: 10.1117/12.2050638).
65. *[In Print]* S. Price, **D. T. Anderson**, K. Stone, J. M. Keller, "Investigation of context, soft spatial and spatial-frequency domain features for buried explosive hazard detection in FL-LWIR," *SPIE Defense, Security, and Sensing*, May, 2014 (doi: 10.1117/12.2049937).
66. *[In Print]* L. Hu, **D. T. Anderson**, T. C. Havens, J. M. Keller, "Efficient and Scalable Nonlinear Multiple Kernel Aggregation Using the Choquet Integral," *International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU)*, pp. 206-215, 2014 (doi: 10.1007/978-3-319-08795-5_22).
67. *[In Print]* M. Al Boni, **D. T. Anderson**, "Aggregation of Ontology Matchers in Lieu of a Reference Ontology," *International Conference on Computational Science and Computational Intelligence*, pp. 353-359, March, 2014 (doi: 10.1109/CSCI.2014.67).
68. *[In Print]* S. R. Price, **D. T. Anderson**, C. Wagner, T. C. Havens, J. M. Keller, "Indices for Introspection of the Choquet Integral," *World Conf. on Soft Computing*, pp. 261-271, 2014 (doi: 10.1007/978-3-319-03674-8_25).
69. *[In Print]* M. Al Boni, **D. T. Anderson**, R. King, "Constraints-Preserving Genetic Algorithm for Learning Fuzzy Measures with an Application to Ontology Matching," *World Conf. on Soft Computing*, pp. 93-103, 2014 (doi: 10.1007/978-3-319-03674-8_9).
70. *[In Print]* C. Wagner, **D. T. Anderson**, T. Havens, "Generalization of the Fuzzy Integral for Discontinuous Interval and Non-Convex Normal Fuzzy Set Inputs," *IEEE International Conference on Fuzzy Systems*, pp. 1-8, 2013 (doi: 10.1109/FUZZ-IEEE.2013.6622343).

71. *[In Print]* T. C. Havens, **D. T. Anderson**, C. Wagner, H. Deilamsalehy, D. Wonnacott, "Fuzzy Integral of Crowd-Sourced Intervals Using a Measure of Generalized Accord," *IEEE Int'l Conference on Fuzzy Systems*, pp. 1-8, 2013 (doi: 10.1109/FUZZ-IEEE.2013.6622343).
72. *[In Print]* L. Hu, **D. T. Anderson**, T. Havens, "Fuzzy Integral for Multiple Kernel Aggregation," *IEEE International Conference on Fuzzy Systems*, pp. 1-7, 2013 (doi: 10.1109/FUZZ-IEEE.2013.6622312).
73. *[In Print]* K. Stone, J. M. Keller, **D. T. Anderson**, "Moving Beyond Flat Earth: Dense 3D Scene Reconstruction from a Single FL-LWIR Camera," *SPIE Defense, Security, and Sensing*, 2013 (doi: 10.1117/12.2014967).
74. *[In Print]* S. R. Price, **D. T. Anderson**, K. Stone, J. M. Keller, "Automatic detection system for buried explosive hazards in FL-LWIR based on soft feature extraction using a bank of Gabor energy filters," *SPIE Defense, Security, and Sensing*, 2013 (doi: 10.1117/12.2014781).
75. *[In Print]* A. Arya (undergraduate student), **D. T. Anderson**, C. Bethel, D. Carruth, "Multi-Kernel Aggregation of Local and Global Features in Long Wave Infrared for Detection of SWAT Teams in Challenging Environments," *SPIE Automatic Target Recognition XXIII*, 2013 (doi: 10.1117/12.2015555). **Best Student Paper Award in Automatic Target Recognition Track**
76. *[In Print]* **D.T. Anderson**, T.C. Havens, C. Wagner, J.M. Keller, M. Anderson, D. Wescott, "Sugeno fuzzy integral generalizations for sub-normal fuzzy set-valued inputs," *IEEE Int. Conf. Fuzzy Systems*, pp. 1-8, 2012 (doi: 10.1109/FUZZ-IEEE.2012.6250827). **Best Paper Award**
77. *[In Print]* C. Wagner & **D. T. Anderson**, "Extracting Meta-Measures from Data for Fuzzy Aggregation of Crowd Sourced Information," *IEEE Int. Conf. Fuzzy Systems*, pp. 1-8, 2012 (doi: 10.1109/FUZZ-IEEE.2012.6251281).
78. *[In Print]* **D. T. Anderson**, O. Sjahputera, K. Stone, J. M. Keller, "Causal cueing system for above ground anomaly detection of explosive hazards using support vector machine localized by K-nearest neighbor," *IEEE Computational Intelligence for Security, Surveillance and Defence (CISSD)*, pp. 1-8, 2012 (doi: 10.1109/CISDA.2012.6291519).
79. *[In Print]* G. Scott & **D. T. Anderson**, "Importance-weighted multi-scale texture and shape descriptor for object recognition in satellite imagery," *IEEE International Geoscience and Remote Sensing Symposium*, pp. 79-82, 2012 (doi: 10.1109/IGARSS.2012.6351632).
80. *[In Print]* R. Luke & **D. T. Anderson**, "Three-dimensional visualization of explosive targets for false alarm rejection in ground penetrating radar," *MSS conference on battlefield survivability and discrimination*, 2012.
81. *[In Print]* **D. T. Anderson**, K. Stone, J. M. Keller, J. Rose, "Anomaly detection ensemble fusion for buried explosive material detection in forward looking infrared imaging for addressing diurnal temperature variation," *SPIE Defense, Security, and Sensing*, 2012 (doi: 10.1117/12.920346).
82. *[In Print]* K. Stone, J. M. Keller, **D. T. Anderson**, D. B. Barclay, "An automatic detection system for buried explosive hazards in FL-LWIR and FL-GPR data", *SPIE Defense, Security, and Sensing*, 2012, (doi: 10.1117/12.920288).
83. *[In Print]* T.C. Havens, J.M. Keller, K. Stone, **D. T. Anderson**, K.C. Ho, T.T. Ton, D.C. Wong, M. Soumekh, "Multiple kernel learning for explosive hazards detection in forward-looking ground-penetrating radar," *SPIE Defense, Security, and Sensing*, 2012 (doi: 10.1117/12.920482).
84. *[In Print]* **D. T. Anderson**, J. Farrell, J. M. Keller, C. Spain, M. Popescu, D. Ho, "Fusion of Anomaly Algorithm Decision Maps and Spectrum Features for Detecting Buried Explosive Hazards in

- Forward Looking Infrared Imagery,” *Applied Imagery Pattern Recognition (AIPR)*, pp. 1-8, 2011 (doi: 10.1109/AIPR.2011.6176367).
85. [In Print] G. Scott & **D. T. Anderson**, “Fusion of differential morphological profiles for multi-scale weighted feature pyramid generation in remotely sensed imagery,” *Applied Imagery Pattern Recognition (AIPR)*, pp. 1-8, 2011 (doi: 10.1109/AIPR.2011.6176348).
 86. [In Print] T. Gill, **D. T. Anderson**, R. H. Luke, J. M. Keller, “A system for change detection and human recognition in voxel space using the Microsoft Kinect sensor,” *Applied Imagery Pattern Recognition (AIPR)*, pp. 1-8, 2011 (doi: 10.1109/AIPR.2011.6176348).
 87. [In Print] **D. T. Anderson**, J. M. Keller, O. Sjahputera, “Algorithm fusion in forward looking long wave infrared imagery for buried explosive hazard detection,” *SPIE Defense, Security, and Sensing*, 2011 (doi: 10.1109/AIPR.2011.6176347).
 88. [In Print] C. J. Spain, **D. T. Anderson**, M. Popescu, J. M. Keller, K. Stone, “Automatic Detection of targets in medium-wave infrared imagery using adaptive background mixture models,” *SPIE Defense, Security, and Sensing*, 2011, (<http://dx.doi.org/10.1117/12.884600>).
 89. [In Print] **D. T. Anderson**, J. M. Keller, O. Sjahputera, J. C. Bezdek, M. Popescu, “Comparing Soft Clusters and Partitions,” *IEEE Int. Conf. Fuzzy Systems*, pp. 924-931, 2011.
 90. [In Print] **D. T. Anderson**, M. F. Anderson, J. M. Keller, D. J. Wescott, “Linguistic Description of Adult Skeletal Age-at-Death Estimations from Fuzzy Integral Acquired Fuzzy Sets,” *IEEE Int. Conf. Fuzzy Systems*, pp. 2274-2281, 2011.
 91. [In Print] M. Ros, **D. T. Anderson**, J. M. Keller, M. Popescu, M. Delgado, A. Vila, “Linguistic summarization of long-term trends for understanding change in human behavior,” *IEEE Int. Conf. Fuzzy Systems*, pp. 2080-2087, 2011.
 92. [In Print] E. Stone, **D. T. Anderson**, M. Skubic, J. M. Keller, “Extracting Footfalls from Voxel Data,” *IEEE International Conference of the Engineering in Medicine and Biology Society*, pp. 1119-1122, 2010.
 93. [In Print] **D. T. Anderson**, R. H. Luke, J. M. Keller, “Linguistic Summarization of Scenes in a Stereo-Vision Acquired Voxel Space,” *IEEE Int. Conf. Fuzzy Systems*, pp. 1-8, 2010.
 94. [In Print] T. Havens, **D. T. Anderson**, J. M. Keller, “A Fuzzy Choquet Integral with an Interval Type-2 Fuzzy-Valued Integrand,” *IEEE Int. Conf. Fuzzy Systems*, pp. 1-8, 2010.
 95. [In Print] **D. T. Anderson**, J. M. Keller, T. Havens, “Learning fuzzy valued fuzzy measures for the fuzzy valued Sugeno fuzzy integral,” in *International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU)*, pp. 502-511, Germany, 2010.
 96. [In Print] **D. T. Anderson**, J. C. Bezdek, J. M. Keller, M. Popescu, “A comparison of five fuzzy Rand indices,” in *International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU)*, pp. 446-454, Germany, 2010.
 97. [In Print] E. Stone, **D. T. Anderson**, M. Skubic, J. M. Keller, “Footfall extraction and visualization from voxel data,” *Gerontechnology*, vol. 9(2), doi:10.4017/gt.2010.09.02.031.00, 2010.
 98. [In Print] **D. T. Anderson**, R. H. Luke, E. Stone, J. M. Keller, “Fuzzy Voxel Object,” *International Fuzzy Systems Association (IFSA)*, pp. 282-287, 2009.
 99. [In Print] R. H. Luke, **D. T. Anderson**, S. Coupland, J. M. Keller, “Fuzzy Logic-Based Edge Extraction Using Graphics Processor Units,” *Intl. Fuzzy Systems Association (IFSA)*, pp. 288-293, Portugal, 2009.
 100. [In Print] **D. T. Anderson** & S. Coupland, “Parallelisation of Fuzzy Inference on a Graphics Processor Unit Using the Compute Unified Device Architecture,” *UK Workshop on Comp. Intelligence*, pp. 1-6, Leicester, 2008.

101. *[In Print]* **D. T. Anderson**, R. H. Luke, M. Skubic, J. M. Keller, M. Rantz, "Evaluation of a Video Based Fall Recognition System for Elders Using Voxel Space," *6th Conference of the Intl. Society for Gerontechnology*, vol. 7(2), <http://dx.doi.org/10.4017/gt.2008.07.02.005.00>, Italy, 2008.
102. *[In Print]* **D. T. Anderson**, R. H. Luke, J. M. Keller, M. Skubic, "Extension of a Soft-Computing Framework for Activity Analysis from Linguistic Summarizations of Video," *IEEE Int. Conf. Fuzzy Systems*, pp. 1404-1410, China, 2008. **Best Student Paper Award**
103. *[In Print]* N. Harvey, R. H. Luke, J. M. Keller, **D. T. Anderson**, "Speedup of Fuzzy Logic through Stream Processing on Graphics Processing Units," in *IEEE Congress on Evolutionary Computation (CEC)*, pp. 3809-3815, China, 2008.
104. *[In Print]* **D. T. Anderson**, R. H. Luke, J. M. Keller, "Incorporation of Non-Euclidean Distance Metrics into Fuzzy Clustering on Graphics Processing Units," *IFSA*, pp. 128-139, Mexico, 2007.
105. *[In Print]* **D. T. Anderson**, J. Keller, M. Skubic, X. Chen, Z. He, "Recognizing Falls from Silhouettes," *EMBS*, pp. 6388-6391, NY, 2006.
106. *[In Print]* X. Chen, Z. He, **D. T. Anderson**, J. Keller, M. Skubic, "Adaptive Silhouette Extraction and Human Tracking in Complex and Dynamic Environments," *Intl. Conf. on Image Processing*, Georgia, 2006.
107. *[In Print]* X. Chen, Z. He, J. Keller, **D. T. Anderson**, M. Skubic, "Adaptive Silhouette Extraction in Dynamic Environments Using Fuzzy Logic," *IEEE Int. Conf. Fuzzy Systems*, pp. 832-839, Canada, 2006.
108. *[In Print]* M. Skubic, **D. T. Anderson**, S. Blisard, D. Perzanowski, and A. Schultz, "Using a Qualitative Sketch to Control a Team of Robots," *IEEE Intl. Conf. on Robotics and Automation*, pp. 3595- 3601, FL, 2006.
109. *[In Print]* **D. T. Anderson**, C. Bailey, M. Skubic, "Hidden Markov Model Symbol Recognition for Sketch Based Interfaces," *AAAI symposium - making pen-based interaction intelligent and natural*, pp. 15-21, DC, 2004.
110. *[In Print]* M. Skubic, **D. T. Anderson**, M. Khalilia, S. Kavirayani, "A Sketch-Based Interface for Multi-Robot Formations," *AAAI Robotics Workshop*, CA, 2004.

PATENTS

1. Anonymized video analysis methods and systems. Skubic, Keller, Anderson, Luke, et al. Patent No. US 8890937 B2, Nov. 18, 2014.

TECHNICAL REPORTS AND PROFESSIONAL POSTER PRESENTATIONS

1. R. H. Luke, **D.T. Anderson**, J. M. Keller, "A system for change detection and human recognition in voxel space using stereo vision," University of Missouri, accessible at <http://cirl.missouri.edu/vision>, 2011, for National Library of Medicine. (tech. report)
2. R. H. Luke, **D.T. Anderson**, J. M. Keller, M. Skubic, "Human Segmentation from Video in Indoor Environments Using Fused Color and Texture Features," University of Missouri, accessible online at <http://cirl.missouri.edu/vision>, 2007, for National Library of Medicine. (tech. report)
3. M. Anderson, **D. T. Anderson**, D. Wescott, J.M. Keller, "Multi-factorial estimation of skeletal age-at-death using the Sugeno fuzzy integral," AAFS, 2012. (poster presentation)
4. **D. T. Anderson**, R. Luke, J.M. Keller, M. Skubic, "Linguistic summarization of human activity," National Library of Medicine (NLM) informatics training conference, 2010. (poster presentation)
5. M. Anderson and D. T. **Anderson**, "Skeletal age-at-death using the Sugeno Fuzzy Integral," American Association of Physical Anthropologist, 2008. (poster presentation)
6. **D. T. Anderson**, R. Luke, J.M. Keller, M. Skubic, "Real-time recognition of falls from silhouettes," National Library of Medicine (NLM) informatics training conference, 2007. (poster presentation)

HONORS AND AWARDS

IEEE Senior Member	(2014)
Co-author of best student paper award at SPIE in ATR - Baltimore, Maryland	(2013)
Best paper award at IEEE Int. Conf. Fuzzy Systems - Brisbane, Australia	(2012)
UK-US Digital Economy Collaboration Dev. Award - with University of Nottingham, UK	(2012)
National Library of Medicine Fellowship	(2006-2010)
Featured in University of Missouri (MU) <i>Magazine</i> - Graduate Research Matters	(2009)
Featured in MU "Graduate School Student & Faculty Spotlights"	(2009)
Recipient of John D. Bies Intl. Travel Scholarship for <i>IFSA</i> in Lisbon Portugal	(2009)
Recipient of Mizzou Outstanding Graduate Student Award in Electrical and Comp. Eng.	(2009)
Best student paper award at <i>IEEE Int. Conf. Fuzzy Systems</i> - Hong Kong, China	(2008)
IEEE student travel grant to attend <i>IEEE Int. Conf. Fuzzy Systems</i> - Hong Kong, China	(2008)
2 nd Place – Mizzou Health Sciences Research Day poster contest	(2008)
Tech. innovation award at AAAI conference - Pittsburgh, PA - NRL and MU collaboration	(2005)
Best Exhibit Award – University of Missouri Engineering Open House	(2005)
Tech. innovation award at AAAI conference - San Jose, CA - NRL and MU collaboration	(2004)
Recipient of Mizzou Superior Graduate Achievement Award in Computer Science	(2004)

PROFESSIONAL SERVICE

- Program committee member, 2017, Detection and Sensing of Mines, Explosive Objects and Obscured Targets XXIII
- Program co-chair for FUZZ-IEEE 2019, New Orleans
- Associate editor (AE) for *IEEE Trans. on Fuzzy Systems* [impact factor 6.701, as of 6-29-2016]
- Area co-chair (fuzzy computer vision and pattern recognition) for FUZZ-IEEE 2017
- Guest editor for a special issue on “Feature and Deep Learning in Remote Sensing Applications” in the Journal of Applied Remote Sensing (JARS), 2016
- Camgian 2016 inaugural “Tech Talk” lecture labeled “Multi-Sensor Fusion”
- Co-organizer, tutorial; Computer Vision: A Computational Intelligence Perspective, WCCI, 2016 (Canada) [two back-to-back tutorials]
- Co-chair, special session on Fuzzy Set Theory in Computer Vision, WCCI, 2016 (Canada)
- Co-chair, special session on Computational Intelligence for Security, Surveillance and Defense (CISSD), WCCI, 2016 (Canada)
- Program Committee of CIDS book 2015
- Lab/Computer Planning Committee, ECE at MSU
- Co-chair, special session on Fuzzy Set Theory in Computer Vision, FUZZ-IEEE, 2015 (Turkey)
- Co-chair, special session on Fuzzy Clustering at IPMU, 2014 (France)
- Co-chair, special session on Fuzzy Set Theory in Computer Vision, *FUZZ-IEEE 2014* (China)
- Co-organizer, Computer Vision tutorial: A Computational Intelligence Perspective, *FUZZ-IEEE 2014*
- Chair, Special Session on Emerging Applications and Extensions of Fuzzy Measures and Integrals, held at *FUZZ-IEEE 2013* (India)
- Co-organizer, workshop/tutorial on View of Computer Vision Research and Challenges for the Fuzzy Set Community, held at *FUZZ-IEEE 2013* (India)
- Co-chair, Special Session on Computational Intelligence for Security, Surveillance and Defense, held at *FUZZ-IEEE 2012* (Australia)
- Co-chair, Special Session on Computational Intelligence for Activity Recognition from Sensed Data, held at *FUZZ-IEEE 2011* (Spain)
- IEEE Computational Intelligence Society Mizzou Chapter chair (Nov. 2010 to Aug. 2011)
- Journal reviewer, *IEEE TFS*, *IEEE TGRS*, *IEEE JSTARS*, *IEEE SMC - Part B*, *Elsevier Information Science*, and *SPIE JARS*

- Consistent conference reviewer for *FUZZ-IEEE*, *CISSD*, *IPMU* and *WCSC*. Reviewer for multiple other conferences such as *NAFIPS*, *IEEE CEC*, and *IEEE IGARSS*.
- IEEE Member since 2006. Member of the following societies: Computational Intelligence, Signal Processing, Geoscience and Remote Sensing, and Computer Society
- Member, American Society for Engineering Education (ASEE) [2012]

ADVISING

- Past postdoctoral researchers
 - Dr. Matthew Lee (with Raytheon now)
- Current graduate students
 - Lequn Hu - Ph.D. - Electrical and Computer (ECE) student (anticipated grad 12/2017)
 - Stanton Price - Ph.D. - ECE student (anticipated grad 12/2017)
 - Muhammad Aminul Islam – Ph.D. – ECE student (anticipated grad 5/2018)
 - Jeff Durst – Ph.D. – CME student (anticipated grad 12/2018)
 - Bryce Murray – Masters (doing Ph.D. next) – ECE student (anticipated MS grad 12/2017)
 - Josh Dowdy – Masters – ECE student (anticipated grad 5/2018)
 - Charlie Veal – Masters – ECE student (anticipated grad 12/2018)
 - Blake Brockner – Masters – ECE student (anticipated grad 5/2019)
- Graduated students
 - Ryan Smith – Masters – Fall 2016 - Fusion of RGB and Thermal Data for Improved Scene Understanding – ECE student (with Dynetics)
 - Stanton Price – Masters – Spring 2015 – ‘Advanced Feature Learning and Representation in Image Processing for Anomaly Detection’ - ECE student (now a PhD student at MSU)
 - Titilope Adeyeba – Masters – Spring 2015 – ‘Insights and Characterizations of l1-Norm Based Sparsity Learning of a Lexicographically Encoded Capacity Vector for the Choquet Integral’ - ECE student (now with DELL, TX)
 - Leary Tomlin – Masters – Spring 2016 – ‘Fuzzy Integral-Based Rule Aggregation in Fuzzy Logic’ - ECE student (now with Gresham, Smith and Partners)
 - John Rose – Masters – ECE student (now with US Air Force)
- Senior design groups
 - Fall 2015/Spring 2016 – Mail Retrieval Robot - Charlie Veal, Reed Wells, Champagne Lewis, Josh Schultz
- Current undergraduate students
 - Bryan Lagrone
- Past undergraduate students
 - Ravinder Singh - ECE student (Raytheon; won second prize at MSU 2014 college of Engineering undergraduate student research award in the category physical science and engineering)
 - Ankit Arya - CS student (won first prize at LSU undergraduate research conf. 2012, best student paper at SPIE 2013, MSU 2013 College of Eng. Undergraduate Student Research Award)
 - Josh Dowdy - ECE student (MSU ECE graduate student now; winner of distinguished award at MSU 2014 Bagley undergraduate research poster competition)
 - Michael Acosta - ECE student
 - Darrell Cleveland - ECE student
 - Daniel Stevenson – ECE student
 - Ryan James – ECE student
 - Derek Reeves – ECE student
 - Stanton Price – BME student
 - John Rose – ECE student

TEACHING EXPERIENCE

- Certified for online instruction by MSU Center for Teaching and Learning (October 2016)
- Mississippi State University - Electrical and Computer Engineering
 - Information Fusion, Spring 2015 [graduate course]
 - Computational Intelligence, Spring 2013 and Spring 2016 [graduate course]
 - Pattern Recognition, Spring 2012 and Spring 2014 [graduate course]
 - Introduction to Digital Signal Processing, Fall 2011/2012/2013/2014 [split-level course]
 - Signals and Systems, Fall 2015 and Fall 2016 [undergraduate course]
 - Seminar Series, 2013/2014
 - Directed Individual Study, 2012 and 2014 (both resulted in IEEE publications)
- University of Missouri, Curriculum Development in College of Engineering
 - Designed and developed courses in virtual interactive environment
 - Intro. to the Dev. and Design of Virtual Interactive Environments [undergrad]
 - Advanced Development and Design of Virtual Interactive Environments [undergrad]
- University of Missouri, Resident Instructor in Information Technology
 - Primary instructor for game development, design and real-time computer graphics
 - Intro. to game design [undergrad]
 - Game design II [undergrad]
 - Shader programming [undergrad]
- University of Missouri, Graduate Instructor in Computer Science
 - Primary instructor for the courses
 - Production languages [undergrad]
 - Internet, world wide web and multimedia [undergrad]
 - Intro. to programming languages [undergrad]

SEMINAR SERIES AND INVITED TALKS

- Plenary speaker, FUZZ-IEEE 2017, “Fusion here, there and almost everywhere in computer vision – driving new advances in fuzzy integrals,” Naples, Italy. <http://www.fuzziieee2017.org/plenaryTalks.html>
- Invited seminar, “Fusion here, there and almost everywhere in computer vision: driving new advances in fuzzy integrals” at Michigan Technological University, November 2016.
- Invited seminar, “Confusion in fusion: what’s really broke in emerging technologies?” at University of Missouri, October 2016.
- Invited seminar. “Flexible Metric for Linguistically Comparing Clusterings: Comparing Soft Partitions using the Earth Movers Distance,” University of Nottingham, UK, March 6th, 2013.
- IEEE Computational Intelligence seminar series - 2010/2011
 - <http://cis.missouri.edu/>
 - Weekly presentations and research discussions with invited speakers
 - Primary focus graduate student education (but it was open to undergraduates as well)
- Parallel Processing in Matlab, Parallel Computing Toolbox, GPUs and CUDA - 2010
 - Audience: Faculty and graduate students in Electrical and Computer Engineering at MU, with emphasis on individuals connected to Night Vision and Electronic Sensors Directorate (NVESD).
 - Topics: Parallelization of algorithms in Matlab w.r.t. the PCT using multi-core CPUs and GPUs via CUDA, with an emphasis on image processing and information fusion.
- Speed-up of Algorithms With Graphics Processing Units (GPUs) - 2006
 - Audience: IEEE Computational Intelligence Society MU Chapter and National Library of Medicine (NLM) Medical Informatics training grant special seminar series.
 - Topics: Introduction to general purpose GPU programming for computer vision and image processing, SOFMs, SIFT, clustering, and cellular automata