DAVID (DAVE) TAHMOUSH

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SUMMARY

My primary research has been in medical and radar imaging, databases, and analysis. I published a book in 2014, edited a successful journal special issue in 2015, and one of my recent journal papers has been a "top 20" paper for the past few months. I am an experienced grant writer with multiple grants above $300K, and an effective teacher with experience teaching multiple classes as well as a teaching award. I have an active SECRET clearance and multiple classified publications. A graduate from Caltech, MIT, and the University of Maryland, I was also a Fulbright Scholar.

RESEARCH INTERESTS

-Radar and Video Analysis – Book published 2014. Head guest editor for special issue of IET Radar, Sonar, Navigation 2015. Principal investigator for robotic perception (ladar, video, radar) in human teaming with emphasis on real-time analysis of human activities and ontological analysis. Designed and implemented classification of radar micro-Doppler video and developed automated target recognition approaches for dismount detection, behavioral recognition, and IED planting. Analyzed and performed experiments on dismounts and vehicles in classic and urban environments, human micro-motion including the detection of breathing and heartbeat via radar, and robotic vehicles. Pedestrian and vehicle tracking and counting, multi-sensor performance. Networked small radars into Terraharvest sensor network system with separate classifier. Detected RPGs and UAVs with radar. Security assessments and network security for wireless, radar, and sensor networks.

-Image Analysis and Informatics (medical and radar) – led team that produced ARCHIMEDES, an archive for medical images and information. Designed and produced a mammogram analysis system for diagnosing breast cancer including determination of asymmetry which outperformed both commercial and academic systems at image prescreening. Improved ultrasound measurements of artery thickness. Analysis of radar imagery and classification.

-Medical Image and Radar Video Databases – led team that produced a pictorial and spatial querying and visualization/markup tool for a medical imaging database including mammograms, sonograms, and MRI. Developed largest micro-Doppler signature database in the world, with X, UHF, Ku, W animal, human, IED, and activities with groundtruth (both class and unclass).

-Project Management – designed and managed Software Project Management class at University of Maryland which connected local industry partner's needs with project management students who led software engineering students on projects, published methodology. Led multiple projects at IBM, UMD, MIT, ARL.

-Software Engineering and Teaching Methods – enhancing software courses with industry projects.

-RF Technology – designed and built a WVR, GPS experiments, radar experiments. Performed interferometric phase calibration with simultaneous atmospheric measurements of columnar changes in water vapor.

-Mobile Applications – designed and produced a USB-key based emergency medical information tool. Led team that produced a PDA based emergency medical triage tool (SIRP) for the AID-N project at APL. Led team that produced a prototype mobile scanning system linked to deployable database for DHS first responders.

EDUCATION

UNIVERSITY OF MARYLAND, College Park, MD
PhD in Computer Science **2008**
Dissertation on "Similarity Classification and Retrieval in Cancer Images and Informatics" GPA 3.58/4.

UNIVERSITY OF MARYLAND, College Park, MD
MS in Computer Science **2005**
GPA 3.58/4. Specializing medical imaging, content-based image retrieval, high-dimensional data, medical data, classification, data structures

MIT, Cambridge, MA
MS Electrical Engineering and Computer Science **2001**
GPA 4.6/5. Specializing in software engineering, RF engineering

MIT, Cambridge, MA
MS Physics **2000**
GPA 4.6/5. Specializing in atmospheric measurement and astrophysics

CALTECH, Pasadena, CA
BS Physics **1996**
Cum Laude. GPA 3.5/4. Specializing in supercomputers, time series and Fourier analysis

AWARDS

US Space Command Proposal Award 2016-17 (2M, 1200K as co-PI, 1+year)

INTOP funding 2015-17(200K/year, 2+years)
Challenge Problem award "Applying Textual Action Attributes to Improve Human Activity Recognition" 2016-18 ($220K/year, 2 years guaranteed)
Robotics CTA award "Robotic Situational Awareness Using Depth Sensors and Video" 2015-16 ($370K)
Robotics CTA award "Concept classifiers for human activity recognition" 2013-14 ($155K)
Cybersecurity Fellowship (University of Maryland University College) 2013-2014 ($25K)
DASA-DE&C Engineer & Scientist Exchange Program (ESEP) 2012 Canada (~$100K)
Top Young Radar Engineer from IDGA Military Radar Summit 2012
Terraharvest grant 2011 ($60K)
Army Superior Unit Award 2009, Army on the Spot Award 2010, 2012
Fulbright Scholar 2008
EAPSI fellowship 2008 (Korea)
Grant from Microsoft Research - Querying Breast Cancer Image Databases 2005 ($50K)
National Science Foundation Grants EIA-00-91474 and CCF-0515241
Graduate Student Teaching Award for 2007
Best student paper in Advanced PACS-based Imaging Informatics at SPIE Medical Imaging

TEACHING EXPERIENCE

Graduate Student Teaching Award in 2007 at the University of Maryland for Software Engineering

UNIVERSITY OF MARYLAND, University College, MD
Adjunct Professor – "Digital Forensics" **2014-current**
Hired as permanent adjunct professor to teach when needed.

UNIVERSITY OF MARYLAND, College Park, MD
Adjunct Professor – "CMSC 330 Organization of Programming Languages" **2013**
Improved syllabus and overall course structure, and administered all grades.

MSS Triservice Conference, Monterrey, CA, Boulder, CO, and Orlando, FL
Organizer – "Dismount Detection and Classification Workshop" **2010-2012**

SPIE Defense Conference, Baltimore MD and Orlando, FL
Instructor – "Radar Micro-Doppler: Principles and Applications" **2010-2011**

IEEE RADAR Conference, Kansas City, Mo
Instructor – "Radar Micro-Doppler Applications" **2010**

GEORGE MASON UNIVERSITY, College Park, VA
Adjunct Professor – "INFS 515, Computer Organization" **2010**

UNIVERSITY OF MARYLAND, College Park, MD
Teaching Assistant and Industrial Liaison – to Professor Jim Purtilo in "CMSC435, Software Engineering" **2003-2008**
Graduate Student Teaching Award for 2007.

UNIVERSITY OF MARYLAND, College Park, MD
Teaching Assistant – to Professor Jim Purtilo in "CMSC498S, Software Project Management" **2004-2008**
Taught project management concepts and mentored student project managers for industrial partners.

UNIVERSITY OF MARYLAND, College Park, MD
Teaching Assistant – to multiple professors in "CMSC 106, Introduction to Computer Science" **2002-2003**
Taught introductory computer science lab sections and office hours.

MIT, Cambridge, MA
Teaching Assistant – "Quantum Mechanics" **1996**
Taught quantum mechanics lab section and office hours.

RESEARCH EXPERIENCE

NAVAL RESEARCH LABORATORY, Washington, DC
Researcher and Section Head **2016 – 2016**
Principal investigator for radar perception and intelligent data analysis as well as principal investigator in radar analysis. Multiple research projects including micro-Doppler radar image analysis, image and video classification, UAV sensing, multi-sensor networks, robotic vision with radar. Leads research team of seven engineers, PI or co-PI on million-dollar projects.

ARMY RESEARCH LAB, Adelphi MD

Researcher **2008 – 2016**

Principal investigator for perception (ladar, video, radar) in human teaming as well as principal investigator in text and video analysis. Multiple research projects including micro-Doppler radar image analysis, image and video classification, multi-sensor networks, robotic vision, IED detection. Certified as a subject matter expert by SENSIAC. Chosen to be NATO representative on SET panels. Head editor of special issue in Radar, Sonar, and Navigation.

-Developed top-performing algorithm for human activity classification in RGBD videos utilizing action attributes to improve recognition.

-Published book on applications of micro-Doppler videos along with several reports transitioned to NATO.

-Improved processing for high-range-resolution radar. Tracking and combining micro-Doppler across range bins and avoiding data dropouts. Transitioned to Canadian research partner. Improved comparability across frequencies and radars, improved processing for VISAR radar.

-Developed top-performing algorithm for dismount classification in micro-Doppler videos which improved false-positive rejection by 87%. Code transitioned to I2WD.

-Determined classification capabilities at W-band and algorithms for high frequency and high range resolution radar classification.

-Developed largest micro-Doppler video database in the world, with X, UHF, Ku, W animal, human, IED, and activities (both class and unclass).

-Supported international programs like NATO SET-163, NATO SET-113, NATO SET-209, and other organizations as internationally recognized expert, reviewer, chair (AIST, IEEE Radar, ICIRS, TAES, DSS, DARPA).

-Developed polarimetric techniques for dismount characterization. Improved sensitivity to arm and leg motion for activity recognition.

-Coordinated joint efforts and collaboration by creating and organizing the MSS Dismount Detection and Classification workshop and the SPIE Defense Special Joint Session on micro-Doppler signatures, organizing the ARL-AFRL Tech Exchange, and developing NATO joint experiments.

-Head guest editor for special issue on micro-Doppler in IET Radar, Sonar, and Navigaiton.

UNIVERSITY OF MARYLAND, College Park MD

Industrial Liaison Officer for SEAM Cooperative, Graduate Assistant **2002 – 2008**

Led multiple teams of 12-50 students on developmental and research software projects. Research on medical image analysis, high-dimensional data, content-based image retrieval. Focused on spatial and temporal data structures (GIS), software engineering, medical imaging, vision and graphics, simulation and data analysis, and information visualization. Led team that produced a pictorial and spatial querying and visualization/markup tool for a medical imaging database including mammograms, sonograms, and MRI. Led team that produced a PDA based emergency medical triage tool (SIRP) for the AID-N project at APL. Led multiple teams that developed, deployed, and refined a prototype National Emergency Deployment System and inventory tracker.

-Led team that produced a pictorial and spatial querying and visualization/markup tool for a medical imaging database including mammograms, sonograms, and MRI.

-Designed and produced a USB-key based emergency medical information tool.

-Designed and produced a top mammogram analysis system for diagnosing breast cancer.

-Led team that produced a PDA based emergency medical triage tool (SIRP) for the AID-N project at APL.

IBM MICROELECTRONICS, Essex Junction VT

RF Engineer **2001 to 2002**

Successfully managed multiple RF test development projects on Teradyne, Roos, and custom platforms. Designed RF device interface boards with ADS, built and correlated both fixtures and tester systems. Programmed the testers extensively in both C and Visual Basic. Also managed data analysis software and virtual testing software in C++. Reduced RFIC test costs by over 90% with a

custom RF tester. Led team that designed, built, programmed, and calibrated IBM's custom RF tester.

TENFOLD TECHNOLOGY, Boston, MA
Software Engineer **2000 to 2001**
Developed and managed custom installation software and provided customer support.

HAYSTACK OBSERVATORY, Westford MA
Software and RF Engineer **1996 to 2000**
Led team that designed, built, and automated a very low cost, easily manufacturable, 18-26 GHz spectrometer that measured rapid variations in atmospheric water vapor to create atmospheric phase corrections. Set up, measured, improved and analyzed 90 GHz and 215 GHz very long baseline interferometry and array measurements. Created extensive atmospheric modeling, a data analysis package with automated multidimensional search, and a fourth order Runge-Kutta iterative solution. Improved the sensitivity of mm-VLBI measurements by up to a factor of two using water vapor spectrometer based atmospheric phase corrections. Automated spectrometer measurements in C, later upgraded to Java.

BATSE PULSAR GROUP, Pasadena CA
Software Developer **1993 to 1996**
Built and managed data analysis software and data products. Designed, programmed and ran a millisecond pulsar FFT search routine using the DELTA supercomputer interfaced with UNIX machines. Simplified data analysis efforts through automation, converted crucial code into C.

PUBLICATIONS AND PAPERS

BOOK

[i] *Radar Micro-Doppler Signatures - Processing and Applications* edited by Victor Chen, David Tahmoush, and William Miceli. IET Publishing 2014. ISBN: 978-1-84919-716-8. There is a growing interest in how to use radar micro-Doppler signatures in real world applications. This book introduces basic concepts, principles, and theoretical analysis on the micro-Doppler effect in radar and pulls together the latest research on the processing and application of radar micro-Doppler signatures.

JOURNAL PAPERS AND BOOK CHAPTERS

[1] D. Tahmoush, F. Ahmad, A. Martone, G. Smith, and Z. Cammenga, "Range-Doppler Processing for Human Motion Detection and Classification" chapter in *Radar for In-Door Monitoring: Detection, Localization, and Assessmen*t 2017 (accepted)

[2] D. Tahmoush, "Review of Radar Micro-Doppler." IET Radar, Sonar & Navigation, 2015. Top 20 paper for January 2016 and February 2016.

[3] D. Tahmoush, "Current Research in Micro-Doppler, Editorial for the Special Issue on Micro-Doppler" *IET Radar, Sonar & Navigation,* 2016.

[4] D. Tahmoush, "Small Boat and Smuggling Activity Recognition" chapter in *Aspects of Multi-Parameter Radar ATR in Complex Environments*, NATO RTO-TR-SET-163, July 2015.

[5] V. Chen, D. Tahmoush, and W. Miceli, "Micro-Doppler Signatures - Review, Challenges and Perspectives", **book chapter** in *Radar Micro-Doppler Signatures - Processing and Applications* edited by Victor Chen, David Tahmoush, and William Miceli. IET Publishing 2014.

[6] V. Chen, D. Tahmoush, "Micro-Doppler Signatures of Small Boats" **book chapter** in *Radar Micro-Doppler Signatures - Processing and Applications* edited by Victor Chen, David Tahmoush, and William Miceli. IET Publishing 2014.

[7] D. Tahmoush and J. Silvious, Radar Measurement of Human Polarimetric Micro-Doppler. ***Journal of Electrical and Computer Engineering***, 2013.

[8] Dave Tahmoush and Jerry Silvious, Gait Variations in Human Micro-Doppler, ***International Journal of Electronics and Telecommunications*** (JET), vol. 57, pp 23-8, ISSN 0867-6747, Index 363189, 2011.

[9] D. Tahmoush, Image Similarity to Improve the Classification and Retrieval of Breast Cancer Images, ***Journal of Algorithms*** Special Issue: Machine Learning for Medical Imaging, 2010.

[10] D. Tahmoush, Micro-Doppler and Dismount Detection, chapter in *Recognition of Dynamic and Static Targets in Complex Environments Using MMW and Other RF Sensors*, NATO RTO-TR-SET-113, July 2010.

CONFERENCE PAPERS

1) D. Tahmoush, Robotic Situational Awareness of Actions in Humans, Proceedings of the Military Sensing Symposia (MSS) Specialty Groups Passive Sensors, 2015.

2) D. Tahmoush, Video and Radar Comparison to 3D Ladar for Activity Recognition, Proceedings of the Military Sensing Symposia (MSS) Specialty Groups Active Sensors, 2015.

3) D. Tahmoush, Applying Action Attribute Class Validation to Improve Human Activity Recognition. In IEEE Conference on Computer Vision and Pattern Recognition Workshops, **CVPRW**, 2015.

4) D. Tahmoush, The Belgian Data – A Multi-Sensor Airborne Dataset. In IEEE Conference on Computer Vision and Pattern Recognition Workshops, **CVPRW**,

2015.

5) D. Tahmoush, Extracting and analyzing micro-Doppler from ladar signatures. In SPIE Defense+ Security. 2015.

6) D. Tahmoush, Fusion of Video and Radar Comparison to 3D Ladar for Activity Recognition. In SPIE Defense+ Security, 2015.

7) D. Tahmoush, An Automated Analysis of Wide Area Motion Imagery for Moving Subject Detection. In SPIE Defense+ Security. 2015.

8) D. Tahmoush, Robotic Situational Awareness of Actions in Human Teaming. In SPIE Defense+ Security. 2015.

9) D. Tahmoush, ground-to-air continuous tracking in the presence of extreme maneuvers, Proceedings of the Military Sensing Symposia (MSS) Specialty Groups Passive Sensors, 2014.

10) D. Tahmoush, Micro-Range Micro-Doppler Classification for False Alarm Reduction, Proceedings of Triservice Radar 2014.

11) D. Tahmoush, Securing radars using secure wireless sensor networking. In SPIE Defense+ Security (pp. 90970B-90970B). 2014.

12) D. Tahmoush, Detection of small UAV helicopters using micro-Doppler. In SPIE Defense+ Security (pp. 907717-907717). 2014.

13) D. Tahmoush, Micro-Doppler classification of riders and riderless horses. In SPIE Defense+ Security (pp. 907715-907715). 2014.

14) D. Tahmoush, J. Silvious, and J. Clark, Radar Detection of RPG and Small Arms Fire, Proceedings of Triservice Radar 2013.

15) D. Tahmoush, Wideband radar micro-Doppler applications. SPIE Defense, Security, and Sensing. International Society for Optics and Photonics, 2013.

16) D. Tahmoush, Micro-Range Micro-Doppler for Dismount Classification, SPIE Defense, Security, and Sensing. International Society for Optics and Photonics, 2013

17) D. Tahmoush and J. Silvious, Pattern of Life for Radar Port and River Security, IEEE Conference on Technologies for Homeland Security, Nov 2012.

18) D. Tahmoush and J. Silvious, Radar with IR for Dismount Classification, Proceedings of the Military Sensing Symposia (MSS) Specialty Groups Battlefield Survivability and Discrimination, Oct. 2012.

19) J. Silvious and D. Tahmoush, Compact Radar and Radar Classification Performance at Trident Spectre, Proceedings of the Military Sensing Symposia (MSS) Specialty Groups Battlefield Survivability and Discrimination, Oct. 2012.

20) D. Tahmoush and J. Silvious, Radar Micro-Doppler Simulations of Classification Capability with Frequency, Proceedings of SPIE Defense, Baltimore, April 2012.

21) J. Silvious and D. Tahmoush, Radar Tracking and Classification of Littoral Targets, Proceedings of SPIE Defense, Baltimore, April 2012.

22) D. Tahmoush, J. Silvious, and R. Bender, Radar Surveillance in Urban Environments, Proceedings of IEEE Radar, Atlanta, May 2012.

2011

23) R. Bender, J. Silvious, and D. Tahmoush, Reflection and Propagation of Microwave Signals in Urban Environments, APS-URSI, Spokane, WA, July 2011.

24) D. Tahmoush and J. Silvious, Radar Micro-Doppler Phenomenology of Human Walking Signatures from UHF to W-band, 2nd Annual Human & Light Vehicle Detection Workshop, Beltsville, MD, May 3-4, 2011.

25) D. Tahmoush and J. Silvious, Intelligent Sensing for False Alarm Reduction, 8th NATO Symposium on Military Sensing SET-169 RSY-025, May 2011.

26) D. Tahmoush and J. Silvious, Determining IED Planting from Radar Persistent Surveillance Data, 2011 Meeting of the Military Sensing Symposia (MSS) Specialty Groups Battlefield Survivability and Discrimination, Orlando, FL, February 2011.

27) J. Silvious and D. Tahmoush, Empire Challenge Radar Signature Phenomenology and Exploitation, 2011 Meeting of the Military Sensing Symposia (MSS) Specialty Groups Battlefield Survivability and Discrimination, Orlando, FL, February 2011.

28) D. Tahmoush and J. Silvious, Behavior Recognition through Radar Micro-Doppler, 2011 Meeting of the Military Sensing Symposia (MSS) Tri-Service Radar, Monterey, Ca, June 2011.

29) R. Bender, J. Silvious, and D. Tahmoush, Multipath Tracking in Urban Environments, 2011 Meeting of the Military Sensing Symposia (MSS) Tri-Service Radar, Monterey, Ca, June 2011.

30) D. Tahmoush and J. Silvious, Improved Prediction of Dismount Velocity for Tracking, Proceedings of IEEE Radar, Kansas, May 2011.

31) J. Silvious and D. Tahmoush, Automotive GMTI Radar for Object and Human Avoidance, Proceedings of IEEE Radar, Kansas, May 2011.

32) D. Tahmoush and J. Silvious, Time-Integrated Range-Doppler Maps for Visualizing and Classifying Radar Data, Proceedings of IEEE Radar, Kansas, May 2011.

33) D. Tahmoush and J. Silvious, Human Polarimetric Micro-Doppler, Proceedings of SPIE, vol. 8021, Orlando, April 2011.

34) D. Tahmoush and J. Silvious, Visualizing and Displaying Radar Micro-Doppler Data, Proceedings of SPIE, vol. 8021, Orlando, April 2011.

35) D. Tahmoush and J. Silvious, Micro-Doppler Classification with an UGS Radar, 2011 Meeting of the Military Sensing Symposia (MSS) Battlespace and Acoustic, Washington DC, Oct 2011.

36) J. Silvious and D. Tahmoush, An UGS Radar for Littoral Persistent Surveillance, 2011 Meeting of the Military Sensing Symposia (MSS) Battlespace and Acoustic, Washington DC, Oct 2011.

2010

37) D. Tahmoush, Micro-Doppler and Dismount Detection, chapter in "Recognition of Dynamic and Static Targets in Complex Environments Using MMW and Other

RF Sensors," NATO RTO-TR-SET-113, July 2010.

38) D. Tahmoush and J. Silvious, Recognizing and tracking humans and vehicles using radar SPIE Vol. 7539: Intelligent Robots and Computer Vision XXVII: Algorithms and Techniques, D. P. Casasent; Ernest L. Hall; Juha Röning, Editors, 753907, Jan 2010.

39) J. Silvious and D. Tahmoush, UHF Measurement of Breathing and Heartbeat at a Distance, IEEE Radio and Wireless Symposium (RWS2010), New Orleans, Jan 2010.

40) D. Tahmoush and J. Silvious, Discrimination of Dismounts using Polarimetric Radar, MSS Parallel, Orlando, February 2010.

41) D. Tahmoush, J. Silvious, J. Clark, An UGS radar with micro-Doppler capabilities for wide area persistent surveillance, SPIE Vol. 7669: Radar Sensor Technology XIV, Kenneth I. Ranney; Armin W. Doerry, Editors, 766904, April 2010.

42) J. Silvious, Ron Wellman, D. Tahmoush, et al., Radar system on a large autonomous vehicle for personnel avoidance, SPIE Vol. 7669: Radar Sensor Technology XIV, Kenneth I. Ranney; Armin W. Doerry, Editors, 766905, April 2010.

43) D. Tahmoush and J. Silvious, Simplified Model of Dismount Micro-Doppler and RCS, IEEE Radar, May 2010.

44) D. Tahmoush and J. Silvious, Detection of Dismounts Moving in Cross-Range Using GMTI Radar, International Radar Symposium, June 2010.

45) D. Tahmoush and J. Silvious, Modeled Gait Variations in Human Micro-Doppler, International Radar Symposium, June 2010.

46) D. Tahmoush and J. Silvious, Radar Discrimination and Tracking of Dismounts, MSS Triservice Radar Conference, June 2010.

47) E. Viverios, R. Wellman, J. Clark, D. Tahmoush, J. Silvious, James Kurtz, D. Wikner, Eric Adler, An unattended, unmanned and man-portable tactical Doppler radar, MSS Triservice Radar Conference, June 2010.

48) D. Tahmoush and J. Silvious, Radar Surveillance of IED Planting, MSS National Conference, July 2010.

49) D. Tahmoush, CBIR for mammograms using medical image similarity, SPIE Proceedings Vol. 7628, Medical Imaging 2010: Advanced PACS-based Imaging Informatics and Therapeutic Applications, Brent J. Liu; William W. Boonn, Editors, 76280A, 2010.

50) D. Tahmoush and J. Silvious, Robotic Recognition, Tracking and Prediction of Human Motion Using Radar, APS-URSI, Toronto, CA, July 2010.

51) D. Tahmoush and J. Silvious, Incorporating Micro-Doppler Capabilities into an UGS Radar. Proceedings of the Military Sensing Symposia (MSS) Battlespace and Acoustic, Laurel, MD, Aug 2010.

52) D. Tahmoush, J. Silvious, and Ed Burke, A Radar Unattended Ground Sensor with Micro-Doppler Capabilities for False Alarm Reduction, SPIE Vol. 7833, September 2010.

53) D. Tahmoush and J. Silvious, Radar Polarimetry for Security Applications, Proceedings of the European Radar Conference (EuRAD 2010), September 2010.

54) D. Tahmoush, J. Silvious, and D. A. Wikner, Compact Radar Surveillance for Aided Target Recognition, Army Science Conference, Orlando, November 2010.

2009

55) D. Tahmoush, Yu-Bu Lee, Myoung-Hee Kim, Automated ultrasound measurement of artery thickness. Proceedings of SPIE – Vol. 7265 Medical Imaging 2009: Ultrasonic Imaging and Signal Processing, p. 7265-15, Orlando, FL, February 2009.

56) D. Tahmoush, Minimizing errors in ultrasound measurements. Proceedings of SPIE – Vol. 7265 Medical Imaging 2009: Ultrasonic Imaging and Signal Processing, p. 7265-53, Orlando, FL, February 2009.

57) D. Tahmoush, A learned distance function for medical image similarity retrieval. Proceedings of SPIE – Vol. 7264 Medical Imaging 2009: Advanced PACS-based Imaging Informatics and Therapeutic Applications, p. 7264-4, Orlando, FL, February 2009.

58) D. Tahmoush, Augmenting medical image diagnosis through image similarity. Proceedings of SPIE – Vol. 7260 Medical Imaging 2009: Computer-Aided Diagnosis, p. 7260-80, Orlando, FL, February 2009.

59) D. Tahmoush, J. Silvious, Radar Micro-Doppler for Security Applications: Modeling Men Versus Women, invited paper to URSI APS 2009.

60) D. Tahmoush, J. Silvious, Radar Micro-Doppler Angle, Elevation, PRF, and Illumination in Radar MicroDoppler for Security Applications, invited paper to URSI APS 2009.

61) J. Silvious, J. Clark, T. Pizzillo, D. Tahmoush, Micro-Doppler Phenomenology of Humans at UHF and Ku-band for Biometric Characterization. Proceedings of SPIE – Vol. 7308 Defense Security and Sensing: Radar Sensor Technology, p. 7308-34, Orlando, FL, April 2009.

62) J. Silvious, R. Bender, D. Tahmoush, RF Biometrics: Multi-Frequency, Micro-Doppler Detection and Identification of Dismounts. Proceedings of 2009 Meeting of the Military Sensing Symposia (MSS) Specialty Groups On Passive Sensors, Battlefield Survivability and Discrimination, Detectors and Materials, Orlando, FL, February 2009.

63) D. Tahmoush and Captain L. Lofland, "A prototype National Emergency Deployment System," IEEE Conference on Technologies for Homeland Security, 2009. HST '09, pp.331-338, 11-12 May 2009.

64) D. Tahmoush and J. Silvious, Radar Micro-Doppler for Dismount Threat Detection. Proceedings of 2009 Meeting of the Military Sensing Symposia (MSS) Tri-Service Radar, Boulder, CO, June 2009.

65) D. Tahmoush, Sandro Fouché, Scott McMaster, Jeff Stuckman, James Purtilo, Enhancing Software Project Management Courses With Industry Participation: Case Study in Cooperative Learning through Industrial Partnership. In Proceedings of FECS'09 - The 2009 International Conference on Frontiers in Education: Computer Science and Computer Engineering, Las Vegas, NV, July 2009.

66) D. Tahmoush, J. Silvious, and R. Wellman, A Compact Persistent Surveillance Radar with Micro-Doppler Capabilities. Proceedings of the 2009 Meeting of the Military Sensing Symposia (MSS) National, Las Vegas, NV, Aug 2009.

67) D. Tahmoush, J. Silvious, and R. Wellman, Target Discrimination with Radar with Micro-Doppler Capabilities. Proceedings of the 2009 Meeting of the Military Sensing Symposia (MSS) Battlespace and Acoustic, Laurel, MD, Aug 2009.

68) D. Tahmoush and J. Silvious, Radar Stride Rate Extraction. Proceedings of the 13th Irish Machine Vision and Image Processing conference (IMVIP 2009), Dublin, Ireland, Sept. 2009.

69) D. Tahmoush and J. Silvious, Radar Micro-Doppler for Long Range Front-View Gait Recognition. Proceedings of the IEEE Conference on Biometrics: Theory, Applications and Systems (BTAS 2009), Arlington, VA, Sept. 2009.

70) D. Tahmoush and J. Silvious, Remote Detection of Humans and Animals, in Proceedings of the Applied Image and Pattern Recognition workshop (AIPR), Washington DC, October 2009.

71) D. Tahmoush and J. Silvious, Stride Rate in Radar Micro-Doppler Images. Proceedings of the IEEE Conference on Systems, Man, and Cybernetics (SMC 2009), San Antonio, TX, Oct. 2009.

2008 and before

72) D. Tahmoush and Hanan Samet, High-Dimensional Rapid Retrieval Using Dimensional Choice, Proceedings of the International Conference on Data Engineering (ICDE) Workshop on Similarity Search and Applications, pages 330 - 337, Cancún, Mexico, April 11-12, 2008.

73) D. Tahmoush, A Web Database for Computer-Aided Detection and Diagnosis of Medical Images, Digital Mammography / IWDM, pages 265-272, 2008.

74) D. Tahmoush, Exploration of Point Cloud Compression Using Neural Nets, the Proceedings of the Korean Computer Graphics Society (KGCS), Jeju Island, Korea, July 7-9, 2008.

75) D. Tahmoush, A Web-Based System for Radiology Experiments, RSNA 2007.

76) D. Tahmoush, H. Samet, Image differencing approaches to medical image classification, in Proceedings of AIPR: Designing to See vs. Learning to See: Comparing Analytical and Adaptive Methods, Washington DC, 2007.

77) D. Tahmoush, H. Samet, A web collaboration system for content-based image retrieval of medical images. In Steven C. Horii and Katherine P. Andriole, editors, Proceedings of SPIE – Vol. 6516 Medical Imaging 2007: PACS and Imaging Informatics, pages 65160E1-9, San Diego, CA, February 2007.

78) D. Tahmoush, H. Samet, A new database for medical images and information. In Steven C. Horii and Katherine P. Andriole, editors, Proceedings of SPIE – Vol. 6516 Medical Imaging 2007: PACS and Imaging Informatics, pages 65160G1-9, San Diego, CA, February 2007.

79) D. Tahmoush, H. Samet, An improved asymmetry measure to detect breast cancer. In Maryellen L. Giger and Nico Karssemeijer, editors, Proceedings of SPIE – Vol. 6514 Medical Imaging 2007: Image Processing, pages 65141Q1-9, San Diego, CA, February 2007.

80) D. Tahmoush, "A Portable, Multi-Lingual, Dynamic Personal Health Record", Proceedings of the AMIA Spring Congress, Orlando FL, May 2007.

81) D. Tahmoush, "A New Nursing PDA Application for Patient Vital Signs Monitoring" Proceedings of the AMIA Spring Congress, Orlando FL, May 2007.

82) D. Tahmoush, High-Dimensional Rapid Classification Using Dimensional Choice, Biosciences Research Review Day, College Park, MD, 13 November 2007.

83) D. Tahmoush and H. Samet, Image Similarity and Asymmetry to Improve Computer-Aided Detection of Breast Cancer, Proceedings of the International Workshop on Digital Mammography (IWDM), The University of Manchester, Manchester, UK, pages 221-8, June 2006.

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Additional publications submitted and accepted.

REFERENCES

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LANGUAGES

English – native language, Korean and German – elementary
Software Languages: C, C++, Java, Ruby, OCaml, Matlab, SQL, Javascript

CLEARANCES

US Secret
NATO