

Curriculum Vitae

Alper Yilmaz, PhD

Professor

Civil, Environmental and Geodetic Engineering
The Ohio State University

Personal statement

Dr. Yilmaz is Professor with appointments in Civil Environmental and Geodetic Engineering and Computer Science and Engineering (courtesy) Departments at The Ohio State University. He has been inducted to the U.S. National Academy of Inventors in 2020, is a Fellow of the American Society for Photogrammetry and Remote Sensing (ASPRS) and is a senior member of IEEE. Dr. Yilmaz is currently chairing the Working Group 5 on Dynamic Scene Understanding of ISPRS Technical Commission II. He is serving as Editor-In-Chief for the *Photogrammetric Engineering and Remote Sensing Journal*. During his leadership of the PE&RS journal, the impact factor has increased to its highest since its first volume in 1934. In 2019, PE&RS was ranked 19th most downloaded journal among all 11,000 titles on Ingenta Connect Platform. He has served as Associate Editor for the *Computer Vision and Image Understanding Journal* between 2014 and 2016 and the *Machine Vision and Applications Journal* between 2006 and 2011.

Dr. Yilmaz's research focusses on biomimetic navigation systems for unmanned systems, mining anomalies in multi-physics and multi-dimensional data for surveillance, and learning geospatial information for scene understanding. On these topics, he has organized a number of conferences in the fields of Photogrammetry, Remote Sensing and Computer Vision. Dr. Yilmaz's research has received over \$11M in extramural funding from NASA, NSF, DOD, DOE and industry which resulted in over 180 publications and patents that received over 11,000 citations (according to Google Scholar).

His recent research on biomimetic navigation systems has resulted in a successful start-up, UbiHere Inc., which is an Ohio State University spin-off. He has founded UbiHere in 2018. After the initial seed funding, Series A funding and government contract, UbiHere designed hardware and software products UbiTrax, UbiVision and UbiStats are being installed at US Air Force bases and hospital systems across the nation for tracking and localization of assets and personnel.

Dr. Yilmaz has been awarded the *Innovator of Year* (OSU) in 2020, *Presidential citation* in 2019 from the American Society for Photogrammetry and Remote Sensing, honorable mention for the *Masao Horiba Award* (Japan) in 2016, the *Lumley Interdisciplinary Research Award* (OSU) in 2015, and the *Lumley Research Award* (OSU) in 2012. He has advised 22 PhD and 15 M.Sc. students to completion on topics ranging from object tracking, 3D scene recovery, machine learning to data mining who have found position in prominent academic institutions, industry, and the government.

Contact Information

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Online Professional Profiles

Google Scholar <https://scholar.google.com/citations?user=MeQC1XYAAAAJ&hl=en>
LinkedIn <https://www.linkedin.com/in/alper-yilmaz-b745761>
Research Gate https://www.researchgate.net/profile/Alper_Yilmaz3
Semantic Scholar <https://www.semanticscholar.org/author/Alper-Yilmaz/1858702>

Positions

6/2018 – present **Founder, Board Member, CTO**, Ubihere Inc.
6/2017 – present **Professor**, Civil, Environmental and Geodetic Engineering, The Ohio State University
6/2017 – present **Professor** (by courtesy), Computer Science and Engineering, The Ohio State University
9/2012 – 6/2017 **Associate Professor** (by courtesy), Computer Science and Engineering, The Ohio State University
9/2006 – 8/2012 **Assistant Professor**, Civil, Environmental and Geodetic Engineering, The Ohio State University
9/2010 – 8/2012 **Assistant Professor** (by courtesy), Computer Science and Engineering, The Ohio State University
8/2004 – 5/2006 **Visiting Assistant Professor**, Computer Science, Univ. Of Central Florida
1/2000 – 8/2004 **Graduate Research Associate**, Computer Science, Univ. Of Central Florida

Degrees

8/2004 **Ph.D.**, University of Central Florida, Computer Science
Advisor: Mubarak Shah, PhD
Dissertation title: Object Tracking and Activity Recognition in Video Acquired Using Mobile Cameras
5/2001 **M.S.**, University of Central Florida, Computer Science
9/1999 **M.E.**, Istanbul Technical University, Computer Engineering
Advisor: Muhittin Gokmen
Thesis title: Face Recognition Using Eigenhills
5/1997 **B.S.**, Yildiz Technical University, Computer Science and Engineering

Honors & Awards

2/2021	Fellow, ASPRS
9/2020	Innovator of the Year. The Ohio State University
1/2020	Senior Member. National Academy of Inventors
2/2020	Innovator of the Year Finalist. The Ohio State University
2/2019	ASPRS Presidential Citation. American Society for Photogrammetry and Remote Sensing
7/2016	Honorable Mention. International Dr. Masao Horiba Award. Horiba Ltd., Japan
4/2015	Lumley Interdisciplinary Research Award. College of Engineering. The Ohio State University
7/2013-2/2015	Member, OSU President and Provost's Leadership Institute. The Ohio State University
10/2013	Senior Member, The Institute of Electrical and Electronics Engineers (IEEE).
4/2012	Lumley Research Award. College of Engineering. The Ohio State University
11/2008	Duane C. Brown Photogrammetry Senior Award. The Ohio State University
3/2004	Hillman Fellowship for Excellence in Research. Computer Science Department. University of Central Florida (\$2,000)
4/2001	Merit Graduate Fellowship. University of Central Florida (\$1,000)
3/2000	Merit Graduate Fellowship. University of Central Florida (\$1,000)
5/1999	Honors Fellowship for Academic Excellence. Turkish Informatics Foundation (\$10,000.00)

Advised Graduate Students

Post-Doctoral Fellows (Mentor)

1. 3/2015-6/2017 **Ashish Gupta**
2. 9/2013-8/2014 **Polun (Ryan) Lai**

Current Doctoral students (Dissertation Advisor)

1. 1/2016-present **Guanyu Xu** (*candidate*) (geodetic science)
2. 1/2016-present **Michael Karnes** (*candidate*) (civil engineering)
3. 8/2017-present **Bing Zha** (*candidate*) (civil engineering)
4. 1/2019-present **Yongsheng (Mike) Bai** (*candidate*) (civil engineering) (co-advised with Halil Sezen)
5. 9/2019-present **Gulcin Sarici Turkmen** (nuclear engineering) (co-advised with Tunc Aldemir)
6. 9/2019-present **Jianli Wei** (electrical and computer engineering)
7. 8/2020-present **Shehan Parera** (electrical and computer engineering)
8. 3/2021-present **Pouyan Boreshnavard** (civil engineering)

Completed Doctoral students (Dissertation Advisor)

1. 8/2014-12/2019 **M. Taha Koroglu**. Multiple Hypothesis Testing Approach to Pedestrian Inertial Navigation with Non-recursive Bayesian Map-matching, Assistant Prof. Gumushane Univ.
2. 8/2014-8/2019 **Nima Ajam Gard**. Human Contour Detection and Tracking: A Geometric Deep Learning Approach. Research Scientist, Path Robotics Inc., Columbus OH.

3. 9/2016-12/2018 **Ji Hyun Lee**. Development of a Tool to Assist the Nuclear Power Plant Operator in Declaring a State of Emergency Based on the Use of Dynamic Event Trees and Deep Learning Tools. Researcher, Samsung, South Korea.
4. 1/2013-12/2018 **Yujia Zhang**. A Structured-Light Based 3D Reconstruction Using Combined Circular Phase Shifting Patterns. Postdoctoral Fellow, York University, Canada.
5. 1/2017-8/2018 **Oliver Nina**. MTLE: A Multitask Learning Encoder-N-Decoder Framework for Temporal-Visual Features for Movie and Video Descriptions. Researcher, US Air Force Research Lab.
6. 9/2013-6/2017. **Changlin Xiao**. Visual Tracking with an Application to Augmented Reality. Postdoc, ETH Singapore Campus.
7. 3/2014-3/2017. **Sagar Deshpande**. Semi-automated methods to create a hydro-flattened DEM using Single Photon and Linear Mode LiDAR. Tenure Track Assistant Professor, Ferris State Univ.
8. 1/2013-5/2016. **Siavash HosseinyAlamdary**. Traffic Scene Perception using Multiple Sensors for Vehicular Safety Purposes. Current Position: Tenure Track Assistant Professor, Univ. of Twente, Netherlands.
9. 1/2014-11/2015. **Anuchit Sukcharoenpong**. Shoreline Mapping with Integrated HSI-DEM using Active Contour Method. Current Position: Geospatial Information Researcher, Geoinformation and Space Technology Development Agency, Thailand Government.
10. 12/2012-5/2015. **Ding Li**. "ESA ExoMars PanCam Vision System Geometric Modeling and Evaluation." Current Position: Research Scientist, Amazon Inc.
11. 1/2010-5/2014. **Daniya Zamalieva**. "Transformational Models for Background Subtraction in Moving Cameras." Current Position: Research Scientist, Amazon A9. (co-advised with J. Davis)
Holds the following patents: US10026229B1
12. 0/2009-19/2014. **Young Jin Lee**. "Real-Time Object Motion and 3D Localization From Geometry." Current Position: Research Scientist, Trimble Inc.
13. 1/2010-12/2013. **Bernard Abayowa**. "Automatic Registration of Optical Aerial Imagery to a LIDAR Point Cloud for Generation of Large Scale City Models" (co-advised with R. Hardy at the Univ. of Dayton)
Current Position: Lead Data Scientist Dayton Univ..
14. 8/2008-12/2013. **Heewon Lee**. "Exploiting dichromatic reflection model of an imaged object." (co-advised with H. Hemami)
15. 1/2008-12/2013. **Mohammed Al-Shahri**. "Line Matching in a Wide-Baseline Stereo-View." Current Position: Tenure track faculty at Sultan Qaboos University, Oman.
16. 6/2009-7/2013. **Kyoungjin Park**. "Generating Thematic Maps From Hyperspectral Images Using A Bag-of-Materials Model." Object Video, Computer Vision Research Scientist.
17. 8/2007-12/2012. **Jinwei Jiang**. "Collaborative Tracking of Image Features Based on Projective Invariance." Current Position: Research Scientist at Ford Motor Inc.
Holds the following patents: US9936181B2
18. 4/2008-8/2012. **Panu Srestasathiern**. "Line Based Estimation of Object Space Geometry and Camera Motion." Current Position: Geospatial Information Researcher, Geoinformation and Space Technology Development Agency, Thailand Government.
19. 3/2006-8/2011. **Gabor Barsai**. "Data registration without explicit correspondence for estimating camera orientation parameters." Current Position: Tenure track faculty at Ferris State University, Michigan.
20. 1/2008-8/2011. **Diego Mandelli**. "Scenario Clustering and Dynamic PRA." Current Position: Idaho National Labs. (co-advised with T. Aldemir)
21. 8/2007-12/2010. **Lei Ding**. "From pixels to people: graph based methods for grouping problems in computer vision." Current Position: Research Scientist at Paypal Inc. (co-advised with M. Belkin)
22. 1/2007-2/2010. **Po-Lun Lai**. "Shape recovery by exploiting planar topology in 3D projective space." Current Position: Research Scientist at Trimble Inc.

Current Masters Students

Completed Masters Students

1. 4/2019-12/2020 **Yuci Han**, "Visual Navigation with UAV Using Deep Reinforcement Learning"
2. 1/2019-8/2020 **Shehan Perera**, "Automated Intracranial Hemorrhage and Subtype Detection"
3. 8/2015-5/2017 **Sai Luo**, "Semantic Movie Scene Segmentation Using Bag-of-Words Representation"
4. 8/2015-4/2017 **Nima Ajam Gard**, "Configuration of large camera networks."
5. 8/2015-4/2017 **Yuchen Lai**, "Augmented Reality Visualization of Building Information Models."

6. 8/2015-3/2017 **Abdullah Alanazi**, "Evaluation the accuracy of GIS data acquired from OpenStreetMaps by comparing against ISPRS benchmark data."
7. 8/2014-5/2016 **Adam Mattmuller**, (co-advised with Prof. Tunc Aldemir), Nuclear Power Plant Maintenance Improvements via Implementation of Wearable Technology."
Holds the following patents US20190063405A1
8. 1/2011-12/2014 **Andrew Kerns** (non-thesis), The Ohio State University
9. 9/2011-5/2013 **Jordan Lawver**, "Robust Feature Tracking in Image Sequences Using View Geometric Constraints."
10. 1/2011-5/2012 **Kashyap Maduri**, (non-thesis)
11. 7/2008-6/2011 **Vinod Khare**, "Precise image registration and occlusion detection."
Holds the following patents US20190052851A1, WO2019002557A1
12. 1/2009-9/2010 **Mustafa Ozendi**, "Viewpoint independent image classification and retrieval."
13. 1/2008-5/2010 **Rhae-Sung Kim**, "Spectral matching using bitmap indices of spectral derivatives for the analysis of hyperspectral imagery."
14. 8/2006-12/2008 **Panu Srestasathiern**, "View invariant planar object recognition."
15. 9/2006-5/2008 **Kyoungjin Park**, "Design of web services system for digital photogrammetry workstation based on service oriented architecture."

Undergraduate Senior Thesis Advisor

1. 5/2011 **Jordan Lawver**, "Three-Dimensional Volumetric Scene Recovery From Multiple Stereo Views Using Voxel Division Techniques."

Noteworthy accomplishments of advisees

1. **Bing Zha:**
Awarded the "3rd Place Certificate of Achievement" in the 2018 PHI-NET Challenge in CS/DATA Category by the Pacific Earthquake Engineering Research Center
2. **Guanyu Xu:**
Awarded the "Michael Johnson Graduate Student Award" School of Earth and Sciences, Ohio State University
3. **Oliver Nina:**
Awarded 1st place at ICFHR Competition on Automated Text Recognition on a READ Dataset (2018)
<https://scriptnet.iit.demokritos.gr/competitions/10/scoreboard/>
4. **Oliver Nina:**
Awarded 1st place at ICCV Large scale movie description challenge (2017)
<https://sites.google.com/site/describingmovies/previous-years/lsmdc-2017?authuser=0>
5. **Taha Koroglu:**
Recipient of competitive Turkish Government Fellowship (2012)
6. **Siavash HosseinyAlamdary:**
Awarded second place in TIC'14: The ISPRS Tracking and Imaging Challenge (2014)
7. **Jordan Lawver:**
US Geospatial Intelligence Foundation Scholarship (2012);
OSU College of Engineering Undergraduate Research Fellowship (2011);
Honors Thesis (2011);
Best Paper Award at ISA Workshop (2013)
8. **Po-Lun Lai:**
OSU Duane Brown Junior Award (2010);
IEEE travel fellowship recipient (2008);
Post Doctoral Research at Mechanical Engineering Department at OSU 2011)
9. **Lei Ding:**
OSU Presidential Fellowship (2008);
Post Doctoral Research at Electrical Engineering Dept. at Columbia University
10. **Jinwei Jiang:**
OSU University Fellowship (2007)
11. **Panu Srestasathiern:**
Recipient of competitive Thailand Government Fellowship (2008)

12. **Mohammed Al-Shahri:**

Recipient of competitive Oman Government Fellowship (2008)

Advised Visiting Scholars and Researchers

1.	9/2019-9/2020	Yao Guobia	13.	7/2016-12/2016	Zeshu Zhang
2.	8/2019-8/2020	Akif Durdu	14.	6/2015-3/2016	Huan Chang
3.	5/2018-5/2019	Mehmet Korkmaz	15.	8/2014-7/2015	Feng Wang
4.	3/2018-6/2018	Yatong Han	16.	1/2015-6/2015	Prashast Bindal
5.	10/2017-6/2018	Jie Wan	17.	9/2014-8/2014	Weisen Pan
6.	9/2017-9/2018	Hu Junfeng	18.	5/2013-4/2014	Levent Ozparlak
7.	7/2017-7/2018	Zhao Yafeng	19.	4/2011-4/2012	Akif Durdu
8.	4/2017-4/2017	Xuhui Su	20.	6/2011-9/2011	Aliye Kayis
9.	4/2017-4/2018	Kemal Erdogan	21.	8/2009-8/2010	Haluk Eren
10.	4/2016-3/2017	Meng Yi	22.	3/2009-3/2010	Jae-Soo Cho
11.	9/2015-3/2017	Shirui Li	23.	8/2008-8/2009	Kong-Hyun Yun
12.	7/2016-12/2016	Mancheng Feng			

List of Books, Chapters, Articles and Other Published Papers

Keynote Lectures

- [1] A. Yilmaz. November 2019. Geo-Positioning in the big data era: a machine learning perspective. ISPRS Conference on GIS in the Big Data Era. Guilin, China
- [2] A. Yilmaz. April 2019. Motion mining in state scale maps. Wuhan University, China
- [3] A. Yilmaz. September 2018. Automated Geospatial Placement of a Camera Network for Wide Area Surveillance. Remote Sensing and Geographical Information Systems Symposium. Eskisehir Turkey
- [4] A. Yilmaz. September 2018. Navigation on planets. Scientific and Technological Research Council of Turkey. Gebze, Turkey
- [5] A. Yilmaz. June 2018. Camera Placement for Wide Area Surveillance & Robotic Path Planning. CPGIS 2018, Intelligent Photogrammetry and Remote Sensing. Beijing China
- [6] A. Yilmaz. September 2017. Human-Cyber-Physical-Systems Engineering for Robust Shutdown Control of Civil Infrastructures. Big Data for Nuclear Power Plants Workshop. Columbus OH
- [7] A. Yilmaz. May 2017. Deep learning techniques for object tracking in image sequences. ISPRS Conference on Photogrammetric and computer vision techniques for video surveillance, biometrics and biomedicine. Moscow, Russia
- [8] A. Yilmaz. March 2017. Geolocalization: Motion Mining in State Scale Maps. ASPRS Imaging and Geospatial Technology Forum. Baltimore MD

Patents

Granted

- [1] [System and method for analysis of surface features](#), US9291527B2,
- [2] [System and method for analysis of surface features](#), US10063837B2
- [3] [Systems, methods, and devices for geo-localization](#), US10677932B2
- [4] [Mesh registration system and method for diagnosing tread wear](#), US10789773B2
- [5] [Mesh registration system and method for diagnosing tread wear](#), US10247641B2
- [6] [Methods and systems for performing navigation-assisted medical procedures](#), US10383654B2

Application

- [7] [Systems and methods for real-time data processing and for emergency planning](#), WO2020041614A1

Provisional

- [8] An Online Operator Tool to Assist Plant Operators in Making Real-Time, Risk-Informed Decisions Regarding Emergency Response Actions in Nuclear Plant Accidents Based on the Use of Dynamic Event Trees and Deep Learning Tools. **Provisional Patent**, Reference Number P2018-197-4469

- [9] Systems, Methods And Devices For Map-Based Object Localization Using Deep Learning. **Provisional Patent**, Application Number 63/049,005
- [10] Systems, Methods And Devices For Learning Objects' Motion Trajectories On Maps Using Deep Learning For Temporally Consistent Geo-Localization. **Provisional Patent**, Application Number 63/064,656

Chapters in Books

- [1] Z. Koppanyi, D. Iwaszczuk, B. Zha, C. Saul, C. Toth and A. Yilmaz. August 2019. Multi-Modal Semantic Segmentation: Fusion of RGB and Depth Data in Convolutional Neural Networks. In Multi-Modal Scene Understanding. Edited by Bodo, M. Yang and Vittorio. Elsevier. ISBN: 9780128173589
- [2] Ashish Gupta and Alper Yilmaz. 2018. Social Network Inference in Videos, in Signal Processing, Volume 6 on Image and Video Processing and Analysis and Computer Vision, Chapter 11, pages 395-424, Elsevier. DOI: 10.1016/B978-0-12-811889-4.00011-7
- [3] L. Ding and A. Yilmaz. 2014. Learning Social Relations from Videos: Features, Models and Analytics. In Human-Centered Social Media Analytics. Edited by Y.R. Fu and S. Rees. New York, NY: Springer Verlag. DOI 10.1007/978-3-319-05491-9_2
- [4] F. Porikli and A. Yilmaz. 2012. Object Tracking. In Video Analytics for Business Intelligence. Edited by C. Shan, F. Porikli, T. Xiang and S. Gong. New York, NY: Springer Verlag. ISBN 978-3-642-28597-4
- [5] A. Durdu, I. Erkmén, A. Erkmén, A. Yilmaz. 2012. Robotic Hardware and Software Integration for Changing Human Intentions. In Prototyping of Robotic Systems: Applications of Design and Implementation. Edited by T. Sobh, X. Xiong. IGI Global Publisher. ISBN13: 978-1-466-60176-5
- [6] A. Yilmaz. 2011. Detecting and Tracking the Action Content. In Computer Analysis of Human Behavior. Advances in Pattern Recognition. Edited by Theo Gevers and Albert Ali Salah. New York, NY: Springer Verlag. 41-68. ISBN 978-0-85729-993-2
- [7] A. Yilmaz. 2009. Active Contours: Snakes. In Wiley Encyclopedia of Computer Science and Engineering. Vol. 1. Edited by Benjamin W. Wah. New Jersey: John Wiley & Sons. 11-13. ISBN: 978-0-471-38393-2
- [8] A. Yilmaz. 2009. Level Set Methods. In Wiley Encyclopedia of Computer Science and Engineering. Vol. 3. Edited by Benjamin W. Wah. New Jersey: John Wiley & Sons. 1731-1734. ISBN: 978-0-471-38393-2
- [9] A. Yilmaz. 2009. Contour Tracking. In Wiley Encyclopedia of Computer Science and Engineering. Vol. 1. Edited by Benjamin W. Wah. New Jersey: John Wiley and Sons. 668-672. ISBN: 978-0-471-38393-2

Journal Articles

- [1] V. Kalkhorani, J. Clark and A. Yilmaz. June 2020. **TITLE. Venue.(in prep)**
- [2] A. Yusefi, A. Durdu and A. Yilmaz, 02 2021 HVIOnet: A Deep Learning Based Hybrid Visual-Inertial Odometry Approach for Unmanned Aerial System Position Estimation, IEEE Access
- [3] M.A. Eltejani; A. Durdu; S. Celtek, A. Yilmaz. March 2020. A Novel Approach for Real-Time Adaptive Traffic Control Based on Fuzzy Logic with Webster and Modified Webster Formula Using SUMO Traffic Simulator. IEEE Intelligent Transportation Systems Magazine. (**submitted**)
- [4] G. Yao, A. Yilmaz, L. Zhang, F. Meng, H. Ai, F. Jin. February 2021. Matching Large Baseline Oblique Stereo Images Using an End-to-End Convolutional Neural Network. Remote Sensing Journal. Vol. 13, No: 2, pp 274. <https://doi.org/10.3390/rs13020274>
- [5] N. Gard and A. Yilmaz. January 2021. A Spacetime Model for One-shot Active Contour Extraction Scheme for Human Detection in Image Sequences. Computer Vision and Image Understanding. Volume 202 <https://doi.org/10.1016/j.cviu.2020.103113>
- [6] J. Li, A. Yilmaz, R. Denning and T. Aldemir. October 2020. An Online Operator Support Tool for Severe Accident Management in Nuclear Power Plants Using Dynamic Event Trees and Deep Learning. Annals of Nuclear Energy. Vol. 146. DOI: 10.1016/j.anucene.2020.107626
- [7] Z. Sun, C. Zhang, J. Chen, P. Tang, and A. Yilmaz. September 2020. Predictive Nuclear Power Plant Outage Control through Computer Vision and Data Driven Simulation. Progress in Nuclear Energy. Vol. 127. DOI: 10.1016/j.pnucene.2020.103448
- [8] R. Xu and A. Yilmaz. August 2020. A wearable augmented reality navigation system for surgical telementoring based on Microsoft HoloLens. Annals of Biomedical Engineering. DOI: 10.1007/s10439-020-02538-5
- [9] M. Yang, Y. Lyu; G. Vosselman; G.S. Xia; A. Yilmaz. July 2020. UAVid: A Semantic Segmentation Dataset for UAV Imagery. ISPRS Journal of Photogrammetry and Remote Sensing. Volume 165, Pages 108-119. DOI: 10.1016/j.isprsjprs.2020.05.009

- [10] J. Wan, A. Yilmaz and L. Yan. October 2019. PPD: Pyramid Patch Descriptor via Convolutional Neural Network. *Photogrammetric Engineering and Remote Sensing*. Volume 85, Number 9, September 2019, pp. 673-686. DOI: 10.14358/PERS.85.9.673
- [11] A. Durdu, A. Erkmen and A. Yilmaz. November 2019. Reshaping human intention in Human-Robot Interactions by robot moves. *Interaction Studies: Social Behavior and Communication in Biological and Artificial Systems, Special Issue on Social Cues in Robot Interaction, Trust and Acceptance*. Vol: 20:3, pp. 534-564. ISSN 1572-0373.
- [12] J. Hu, W. Song, W. Zhang, Y. Zhao and A. Yilmaz. March 2019. Deep learning using in lumber classification tasks. *Journal of Wood Science and Technology*. Springer. Volume 53, Issue 2, pp 505-517 DOI: 10.1007/s00226-019-01086-z
- [13] A. Rosenbaum, R. Smith, E. Hade, A. Gupta, A. Yilmaz and M. Cackovic. December 2018. Use and Experiences with External Fetal Monitoring Devices Among Obstetrical Providers. *Journal of Maternal-Fetal & Neonatal Medicine*. Vol. 33 Issue 14, pp 2348-2353. DOI: 10.1080/14767058.2018.1548604
- [14] J.H. Lee, A. Yilmaz, R. Denning, T. Aldemir. November 2018. Use of dynamic event trees and deep learning for real-time emergency planning in power plant operation. *Nuclear Technology Journal, Special Issue on Big Data Analytics for Nuclear Power*. DOI: 10.1080/00295450.2018.1541394
- [15] O Nina, W Garcia, S Clouse, A Yilmaz. 2018. MTLE: A Multitask Learning Encoder of Visual Feature Representations for Video and Movie Description. arXiv preprint arXiv:1809.07257 (*none peer reviewed*)
- [16] J. Wan, A. Yilmaz, L. Yan. December 2018. DCF-BoW: Build Match Graph Using Bag of Deep Convolutional Features for Structure from Motion. *IEEE Geoscience and Remote Sensing Letters*. Vol. 15, No: 12, pp. 1847-1852. DOI: 10.1109/LGRS.2018.2864116
- [17] J. Wan and A. Yilmaz. June 2018. DCF: A method for creating image relation table using a deep convolutional network. *Acta Geodaetica et Cartographica Sinica (AGCS) Machine Vision Special Issue*. Vol. 47. No 6. pp. 882-891.
- [18] G. Barsai, A. Yilmaz, S. Nagarajan, P. Srestasathiern. October 2017. Registration of Images to Lidar And GIS Data Without Establishing Explicit Correspondences. *Photogrammetric Engineering & Remote Sensing*. Vol 83. No 10. Pp 705-716. DOI: 10.14358/PERS.83.10.705 (*ASPRS ESRI award recipient*)
- [19] C. Zhang, P. Tang, N. Cooke, V. Buchanan, A. Yilmaz, S. W. Germain, R. L. Boring, S. Akca-Hobbins, A. Gupta. May 2017. Human-centered automation for resilient nuclear power plant outage control. *Journal of Automation in Construction*. DOI: 10.1016/j.autcon.2017.05.001
- [20] Pearlman R, Frankel WL, Swanson B, Zhao W, **Yilmaz A**, Miller K, et al. April 2017. Prevalence and Spectrum of Germline Cancer Susceptibility Gene Mutations Among Patients With Early-Onset Colorectal Cancer. *JAMA Oncol*. 2017;3(4):464-471. doi:10.1001/jamaoncol.2016.5194
- [21] S. HosseinyAlamdary and A. Yilmaz. March 2017. A Bayesian Approach to Traffic Light Detection and Mapping. *ISPRS Journal of Photogrammetry and Remote Sensing*. Vol. 125, pp 184-192. DOI: 10.1016/j.isprsjprs.2017.01.008
- [22] S. Deshpande and A. Yilmaz. January 2017. A semi-automated method to create a LiDAR-based hydro-flattened DEM. *International Journal of Remote Sensing*. Vol. 38, Issue: 5, p. Pages: 1365-1387. DOI: 10.1080/01431161.2017.1280632
- [23] Z. Zhang, J. Pei, D. Wang, Q. Gan, J. Ye, J. Yue, B. Wang, S. Povoski, E. Martin, Jr, C. Hitchcock, A. Yilmaz, M. Tweedle, P. Shao and R. Xu. 2016. A Wearable Goggle Navigation System for Dual-mode Optical and Ultrasound Localization of Suspicious Lesions: Validation Studies Using Tissue-simulating Phantoms and An Ex Vivo Human Breast Tissue Model. *Plos One*. Volume:11, Issue:7, ISSN: 1932-6203
- [24] A. Sukcharoenpong, A. Yilmaz, and R. Li. March 2016. An Integrated Active Contour Approach to Shoreline Mapping using HSI and DEM. *IEEE Transactions on Geoscience and Remote Sensing*. Volume:54, Issue: 3, p. 1586 - 1597. DOI 10.1109/TGRS.2015.2483641
- [25] B. Abayowa, R. Hardie and A. Yilmaz. August 2015. Automatic Registration of Optical Aerial Imagery to a LiDAR Point Cloud for Generation of City Models. *ISPRS Journal of Photogrammetry and Remote Sensing*. Vol. 106, p. 68-81. DOI 10.1016/j.isprsjprs.2015.05.006
- [26] D. Zamaliev and A. Yilmaz. 2014. Background subtraction for the moving camera: A geometric approach. *Computer Vision and Image Understanding*, Vol 127, p. 73-85. DOI 10.1016/j.cviu.2014.06.007
- [27] M. Al-Shahri and A. Yilmaz. September 2014. Line Matching in Wide-Baseline Stereo: A Top-Down Approach. *IEEE Trans. on Image Processing*. Vol 23, Issue 9. p. 4199-4210. DOI 10.1109/TIP.2014.2331147
- [28] J. Jiang and A. Yilmaz. March 2014. Persistent Feature Tracking Using Scene Geometry. *Computer Vision and Image Understanding*, Vol 120 p 141-156. DOI 10.1016/j.cviu.2013.10.009

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Papers in Proceedings

- [1] J. Xing, P. Tang, A. Yilmaz, R.L. Boring, G.E. Gibson. February 2022. Monitoring Defects in Attention Allocations of Nuclear Power Plant Operators through Knowledge Representation. ASCE Lifelines conference (**submitted**)
- [2] B. Zha, T. Aldemir and A. Yilmaz. August 2021. Deep Transformer Network for Time Series Classification: The NPP Safety Case. 2021 International Topical Meeting on Probabilistic Safety Assessment and Analysis (PSA 2021), Columbus OH.
- [3] B. Zha and A. Yilmaz. January 2021. [Map-Based Temporally Consistent Geolocalization through Learning Motion Trajectories](#). International Conf. on Computer Vision (ICPR). Milan Italy
- [4] Y. Bai, H. Sezen and A. Yilmaz. January 2021. End-to-end Deep Learning Methods for Automated Damage Detection in Extreme Events at Various Scales. International Conf. on Computer Vision (ICPR). Milan Italy

- [5] J. Xing, P. Tang, A. Yilmaz and R. Boring. 2/2021. Monitoring the Nuclear Power Plant Controller's Operational Attention Allocation Defects through Eye Tracking and Task Analysis. ASCE Lifelines Conference. Los Angeles, CA.
- [6] B. Zha and A. Yilmaz. 8/2020. Learning Maps for Object Localization using Visual-Inertial Odometry. ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci., V-1-2020, 343–350. Nice, France. <https://doi.org/10.5194/isprs-annals-V-1-2020-343-2020>
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- [9] B. Zha, A. Yilmaz, T. Aldemir. 11/2019. Off-site Dose Prediction for Decision Making Using Recurrent Neural. ANS Winter Meeting. Washington DC.
- [10] J. Huai, Y. Zhang and A. Yilmaz. 10/2019. The Mobile AR Sensor Logger for Android and IOS Devices. IEEE Sensors Conference. Montreal Canada.
- [11] J. Wei, M. Koroglu, B. Zha and A. Yilmaz. 10/2019. Pedestrian Localization on Topological Maps with Neural Machine Translation Network. IEEE Sensors Conference. Montreal Canada.
- [12] B. Zha. M. Bai, H. Sezen and A. Yilmaz. 09/2019. Deep Convolutional Neural Networks For Classification In Comprehensive Structural Health Monitoring. 12th International Workshop on Structural Health Monitoring. San Jose, CA.
- [13] M.T. Koroglu, M. Korkmaz, A. Yilmaz and A. Durdu. 09/2019. Multiple Hypothesis Testing Approach to Pedestrian INS with Map-Matching. Int. Conf. on Indoor Positioning and Indoor Navigation. Pisa, Italy
- [14] E. Sahin, C. Saul and A. Yilmaz. 12/2018. Poker Hand Strength Classification Using Deep Learning Architectures. International Conference on Engineering and Technology. Sri Lanka.
- [15] O. Nina, W. Garcia, S. Clause and A. Yilmaz. 12/ 2018. A Multitask Learning Encoder-Decoders Framework for Generating Movie and Video Captioning. Neural Information Processing Systems Workshop on AI for Social Good. Montreal, Canada.
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- [17] C. Saul, E. Sahin, E. Ozsarfatı and A. Yilmaz. 11/2018. Abalone Life Phase Classification with Deep Learning. International Conference on Soft Computing and Machine Intelligence. Nairobi, Kenya
- [18] T. Koroglu, A. Yilmaz and C. Saul. 10/2018. A Deep Learning Strategy for Stride Detection. IEEE Sensors Conference. DOI: 10.1109/ICSENS.2018.8589889 New Delhi, India.
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- [20] JH. Lee, T. Aldemir, A. Yilmaz and R. Denning. 09/2018. Development of an Online Operator Tool to Support Real-Time Emergency Planning Based on the Use of Dynamic Event Trees and Deep Learning. Probabilistic Safety Assessment and Management (PSAM). Los Angeles California.
- [21] N. Gard, J. Chen, P. Tang and Yilmaz. 10/2018. Deep Learning and Anthropometric Plane Based Workflow Monitoring by Detecting and Tracking Workers. ISPRS TC 1 Symposium on Innovative Sensing - From Sensors to Methods and Applications. Karlsruhe, Germany.
- [22] D. Iwaszczuk, Z. Koppányi, N. A. Gard, B. Zha, C. Toth, A. Yilmaz. 10/2018. Semantic Labeling of Structural Elements in Buildings by Fusing RGB and Depth Images in an Encoder-Decoder CNN Framework. ISPRS TCI Midterm Symposium on Innovative Sensing - From Sensors to Methods and Applications. Karlsruhe, Germany
- [23] P. Liu, C. Xiao, A. Yilmaz, Z. Zhang, P. Shao, I. Valerio, E. Martin, C. Sen, R. Xu. 08/2018. Interactive telementoring for prehospital trauma care. Military Health System Symposium.
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- [32] S. Deshpande and A. Yilmaz. 03/2017. A method to hydroflatten Single Photon LiDAR. ASPRS Annual Conf. Imaging and Geospatial Technology Forum. Baltimore, MD
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- [53] Li, R. Li, A. Yilmaz. 2014. ESA ExoMars: Prelaunch PanCam geometric modeling and accuracy assessment. ISPRS Photogrammetric Computer Vision TCIII Midterm Symposium. Zurich. Switzerland (September)
- [54] S. HosseinyAlamdary and A. Yilmaz. 11/2014. Motion Vector Field Estimation Using Brightness Constancy Assumption and Epipolar Geometry Constraint. ISPRS Annals of Photogrammetry Remote Sensing Spatial Information Science, II-1, 9-16, doi:10.5194/isprsannals-II-1-9-2014
- [55] D. Zamalieva, A. Yilmaz and J. Davis. 2014. Exploiting Temporal Geometry for Moving Camera Background Subtraction. International Conference on Pattern Recognition (ICPR). Sweden. (August)
- [56] RS Kim, A. Yilmaz. 06/2014. Spectral Matching using Bitmap Indices of Spectral Derivatives for the Analysis of Hyperspectral Imagery. International Conference on Environmental Science and Technology. Houston, Texas.
- [57] D. Zamalieva, Z. Jankovsky, A. Yilmaz, T. Aldemir and R. Denning. 2014. Automated Selection of Number of Clusters for Determining Proliferation Resistance Measures. Proc. of Probabilistic Safety Assessment and Management Topical Meeting. Honolulu, Hawaii (June)
- [58] Y. Lee and A. Yilmaz. 2013. Real-time Object Detection and 3D Positioning in a Multiple Camera Setup. IISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci., II-3-W2, 31-35. Antalya, Turkey. (November)
- [59] J. Lawver and A. Yilmaz. 2013. Robust Feature Tracking in Image Sequences Using View Geometric Constraints. ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci., II-3-W2, 25-30. Antalya, Turkey. (November) **(Best Paper Award)**
- [60] M. Al-Shahri and A. Yilmaz. 2013. Framework for Line Feature Matching Across Images. ASPRS 2013 Annual Conference, Maryland (March)
- [61] Mandelli, C. Smith, A. Yilmaz and T. Aldemir. 09/2013. Mining nuclear transient data through symbolic conversion. International Topical Meeting on Probabilistic Safety Assessment and Analysis (PSA). Columbia, South Carolina.
- [62] Zamalieva, A. Yilmaz, T. Aldemir and R. Denning, "Online labeling of dynamic event tree scenarios using Observable Operator Models," International Topical Meeting on Probabilistic Safety Assessment and Analysis (PSA), 09/2013.
- [63] Z. Jankovsky, D. Zamalieva, A. Yilmaz, R. Denning and T. Aldemir, "A clustering analysis of probabilistic proliferation resistance measures in an example nuclear fuel system," International Topical Meeting on Probabilistic Safety Assessment and Analysis (PSA), 09/2013. **(best student paper award)**
- [64] D. Zamalieva, A. Yilmaz and T. Aldemir, "Thresholding strategies for Dynamic Event Tree online labeling with Hidden Markov Models," American Nuclear Society Winter Meeting and Nuclear Technology Expo (ANS), 11/2013. Washington, DC.
- [65] D. Mandelli, C. Smith, C. Rabiti, A. Alfonsi, R. Youngblood, V. Pascucci, B. Wang, D. Maljovec, P. T. Bremer, T. Aldemir, A. Yilmaz, D. Zamalieva. 11/2013. "Dynamic PRA: an Overview of New Algorithms to Generate, Analyze and Visualize Data", American Nuclear Society Winter Meeting and Nuclear Technology Expo (ANS). Washington, DC., 949-953
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- [69] D. Zamalieva, A. Yilmaz, T. Aldemir, "Online Scenario Classification in Dynamic Event Tree Generation Using a Statistical Markov Model", Proc.9th International Topical Meeting on Nuclear Thermal-Hydraulics, Operation and Safety (NUTHOS-9), Chung-Hwa Nuclear Society, Taipei, Taiwan, September, 2012. Kaohsiung City, Taiwan.
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- [73] L. Ding and A. Yilmaz. 2011. Inferring Social Relations from Visual Concepts. IEEE International Conference on Computer Vision (ICCV). Barcelona, Spain. (November): pp. 699 – 706. DOI: 10.1109/ICCV.2011.6126306
- [74] Y. Lee, and A. Yilmaz. Jan 2011. Bore-sight Calibration of the Aerial Multi-Head Camera System. In: Evolutionary And Bio-Inspired Computation: Theory And Applications V. 8059 Bellingham: SPIE-Int Soc Optical Engineering. pp. 805-908. (Published).
- [75] K. Metzroth, D. Mandelli, A. Yilmaz, R. Denning and T. Aldemir. 2011. A Comparison of Scenario Binning Methods for Dynamic Probabilistic Risk Assessment. In: European Safety and Reliability Conference. Troyes, France. (September)
- [76] D. Mandelli, A. Yilmaz and T. Aldemir. 2011. Scenario Analysis and PRA: Overview and Lessons Learned. In: European Safety and Reliability Conference. Troyes, France. (September)
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- [102] A. Yilmaz and G. Barsai. 2009. Object Recognition Using Angles in the Projective Plane. In: American Society for Photogrammetry and Remote Sensing Annual Conference. Baltimore, MD, USA. (March): 1-6.
- [103] P. Lai and A. Yilmaz. 2009. A New Approach for Vanishing Line Estimation. In: American Society for Photogrammetry and Remote Sensing Annual Conference. Baltimore, MD, USA. (March): 1-6.
- [104] L. Ding and A. Yilmaz. 2008. Image Segmentation as Learning on Hypergraphs. In: Int. Conf. on Machine Learning and Applications (ICMLA). San Diego, CA, USA. (December): 247-252.
- [105] P. Srestasathien and A. Yilmaz. 2008. View Invariant Object Recognition. In: IAPR International Conf. on Pattern Recognition (ICPR). Tampa, FL, USA. (December): 1-4.
- [106] Yilmaz and G. Barsai. 2008. A View-Geometric Approach to View and Occlusion Invariant Geographic Shape Recognition and Retrieval. In: International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences (ISPRS). B3b, Vol. XXXVII. Beijing, China. (July): 457-463.
- [107] P. Lai and A. Yilmaz. 2008. Projective Reconstruction of Building Shape from Silhouette Images Acquired from Uncalibrated Cameras. In: International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences (ISPRS). B3b, Vol. XXXVII. Beijing, China. (July): 103-108.
- [108] P. Lai and A. Yilmaz. 2008. Efficient Object Shape Recovery via Slicing Planes. In: IEEE Conf. on Computer Vision and Pattern Recognition (CVPR). Anchorage, AK, USA. (June): 1-6.

- [109] R. Li, K. Di, B. Wu, S. He, B. Skopljak, M. Tang, A. Yilmaz, M. Banks, C. Oman and K. Bhasin. 2008. LASOIS: Enhancing the Spatial Orientation Capability of Astronauts on the Lunar Surface. In: NASA Lunar Science Conference. San Jose, CA, USA. (July): 1-4.
- [110] A. Yilmaz. 2007. Object Tracking by Asymmetric Kernel Mean Shift with Automatic Scale and Orientation Selection. In: IEEE Conf. on Computer Vision and Pattern Recognition (CVPR). Minneapolis, MN, USA. (June): 1-6.
- [111] K. Park and A. Yilmaz. 2007. A Design of a Web Service for Digital Photogrammetry Workstation Using Service Oriented Architecture. In: International e-Conference on Computer Science. (December)
- [112] Yilmaz. 2007. Sensor Fusion in Computer Vision. In: IEEE GRSS/ISPRS Joint Workshop on Remote Sensing and Data Fusion over Urban Areas. Paris, France. (April)
- [113] Yilmaz and M. Shah. 2005. Actions Sketch: A Novel Action Representation. In: IEEE Conf. on Computer Vision and Pattern Recognition (CVPR). Vol. 1: 1063-1069.
- [114] Yilmaz and M. Shah. 2005. Recognizing Human Actions in Videos Acquired by Uncalibrated Moving Cameras. In: IEEE International Conf. on Computer Vision (ICCV). Vol. 1: 150-157.
- [115] Y. Zhai, A. Yilmaz and M. Shah. 2005. Story Segmentation in News Videos Using Visual and Text Cues. ACM Int. Conf. on Image and Video Retrieval. 92-102.
- [116] Yilmaz, X. Li and M. Shah. 01/2004. Object Contour Tracking Using Level Sets. In: Asian Conf. on Computer Vision (ACCV). Jeju, Korea. pp. 1-5
- [117] Yilmaz and M. Shah. 01/2002. Automatic Feature Detection and Pose Recovery for Faces. In: Asian Conf. on Computer Vision (ACCV). Vol. 1: 284-289.
- [118] Yilmaz and M. Shah. 09/2002. Estimation of Arbitrary Albedo and Shape from Shading for Symmetric Objects. In: British Machine Vision Conference (BMVC). pp. 71.1-71.9. ISBN 1 901725 19 7
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- [120] Yilmaz, K. Shafique, N. Lobo, T. Olson and M. Shah. 12/2001. Target Tracking in FLIR Imagery Using Mean-Shift and Global Motion Compensation. In: IEEE Workshop on Computer Vision Beyond Visible Spectrum. pp. 1-6
- [121] Yilmaz and M. Gokmen. 2000. Eigenhills vs. Eigenface and Eigenedge. In: IAPR International Conf. on Pattern Recognition (ICPR). Vol. 2: 827-830.
- [122] Yilmaz and M. Gokmen. 2000. Illumination Analysis for Face Recognition Algorithms. In: IEEE Nat. Conf. on Signal Processing and Applications
- [123] Yilmaz and M. Shah. 2000. Shot Detection Using Principal Coordinate System. In: IASTED Internet and Multimedia Systems and Applications (IMSA). Conference: 168-175.
- [124] Yilmaz and M. Gokmen. 1999. Face Recognition Using Eigenhills. In: International Symposium on Computer and Information Sciences (ISCIS).

Description of Quality Indicators, such as Citations, Ranking or Impact Factors of Journal or Publisher

Since peer reviewed conference papers do not appear in citation counts, the citations below are extracted from Google Scholar. The citation counts only include journal articles and conference papers.

Number of received citations from other researchers

- Number of citations is compiled from Google Scholar on August, 2019.
- According to Google Scholar my
 - h-index is 26
 - i10-index is 58
 - Erdős number is 4
 - Number of citations is 10,217

Research Grants

Dr. Yilmaz has received over \$10M in research funds from industry: Trimble, Ford, ICT, and government: NASA, DOE, NGA, DOT, NSF, AFRL, NSA.

University Funded Research

- 8/2017-12/2018 “Automated Intraoperative Co-registration of Patient and Radiotherapy Device” OSUCCC Radiation Oncology Translational Research Seed Grant \$15,000 (**PIs:** Ahmet Ayan, Alper Yilmaz, Nilendu Gupta)
- 7/2014-5/2017 “Wearable Navigation System for Image-guided Cancer Resection Surgery.” OSUCCC Intramural Research Program IDEA Award. \$100,000 (**PIs:** Alper Yilmaz, Ronald Xu, Michael Tweedle)
- 3/2017-2/2018 “The UAV Semantic Video Segmentation Challenge 2017” ISPRS Scientific Initiatives 7,000 Swiss Franc (**PIs:** Alper Yilmaz, Michael Yang)
- 5/2009-4/2010 "Development of Methods for Tracking Human Motion Without Markers in Athletic & Clinical Environments." OSU Sports Medicine Center. \$3,805. (**PI:** Ajit Chaudhari, **CoI:** Alper Yilmaz)

Industry Funded Research

- 3/2019-2/2021 “360-degree-camera based perception.” Ford. \$185,010. (**PI:** Alper Yilmaz)
- 1/2020-12/2020 “(STTR) Multilateration of a forest of sensors with unknown positions” UbiHere \$8,000 (**PI:** Alper Yilmaz)
- 11/2014-6/2017 “Recovering 3D ceiling profile using light coding technology.” Intelligent Construction Tools, LLC. \$344,977. (**PI:** Alper Yilmaz)
- 1/2012-6/2015 “Localization and Pose estimation for Tools at Construction Sites.” Trimble Inc. \$412,349. (**PI:** Alper Yilmaz)

Government Funded Research

- 11/2019-10/2022 “Context-Aware Safety Information Display for Nuclear Field Workers.” DoE. \$800,000. (**PIs:** Pingbo Tang (ASU), Alper Yilmaz (OSU))
- 8/2019-5/2021 “Generative models with visual attention for target tracking and reacquisition.” AFRL. \$67,000+\$55,000+\$35,000. (**PI:** Alper Yilmaz (OSU))
- 9/2017-8/2020 “Integrating Static PRA Information with RISM Simulation Methods” DoE. \$799,985 (**PI:** Tunc Aldemir (OSU), **CoI:** Alper Yilmaz)
- 10/2016-9/2020 “Smart City Challenge.” USDOT. \$2,587,793 (**PI:** Carla Bailo (OSU) **Core Team Member:** Alper Yilmaz and others)
- 4/2016-6/2019 “Generative models with visual attention for target tracking and reacquisition.” AFRL. \$85,000. (**PI:** Alper Yilmaz (OSU))
- 10/2015-12/2018 “Automatic Video Analysis for Proactive Computer-Based Workflow Management during Nuclear Power Plant Outages.”

DOE NEUP Program. \$799,351. (**PIs:** Pingbo Tang (ASU), Alper Yilmaz (OSU), **CoIs:** Nancy Cooke (ASU), James Rogers (ASU))

7/2015-6/2016 "REU Supplement: CMMI-1435446: Simulation of Collapse Behavior and Testing of Masonry Buildings." National Science Foundation. \$10,000 (**PI:**Halil Sezen, **CoI:** Alper Yilmaz)

7/2014-6/2016 "Analytical and Experimental Collapse Behavior of Masonry Buildings." National Science Foundation. \$227,628 (**PI:**Halil Sezen, **CoIs:** Alper Yilmaz)

7/2013-6/2015 "Geolocating videos acquired from mobile platforms." National Geospatial-Intelligence Agency. \$263,031 (**PI:**Alper Yilmaz)

6/2011-3/2015 "High-precision long-range rover localization and topographic mapping using networked PanCam images for the ESA ExoMars rover mission." NASA. \$624,705. (**PI:** Alper Yilmaz, **CoI:** Dorota Brzezinska)

6/2011-12/2014 "Outreach: Crater seeker for Mars and beyond." NASA. \$80,000. (**PI:** Alper Yilmaz, **CoI:** Dorota Brzezinska)

7/2011-6/2014 "Integration of lunar reconnaissance orbiter camera (LROC) and lunar orbiter laser altimeter (LOLA) data for near real-time precision lunar topographic mapping and landing sites assessment." NASA. \$399,633. (**PI:** Alper Yilmaz, **CoI:** Dorota Brzezinska)

10/2011-5/2014 "Pathway Aggregation (Clustering) in the Risk Assessment of Proliferation Resistance and Physical Protection (PR&PP) of Nuclear Energy Systems." DOE NEUP Program. \$534,471. (**PI:** Tunc Aldemir, **CoIs:** Alper Yilmaz, M. Yue, L. Cheng, Umit Catalyurek)

1/2013-12/2013 "Collaborative research: RAPID: Impact of disturbance from hurricane Sandy on methane emission and carbon sequestration rates in NJ coastal wetlands." National Science Foundation. \$70,200. (**PI:** Gil Bohrer, **CoIs:** Alper Yilmaz, Karina Schafer)

10/2011-9/2012 "View Geometric Approach to Tracking Scene Features." NSF/AFRL/Industry Center for Surveillance Consortium. \$44,000.00. (**PI:** Alper Yilmaz, **CoI:** Randolph Moses, Lee Potter)

4/2011-9/2012 "Identifying Groups and Their Leaders in in IED Burying Scenario Acquired from a Camera Mounted on a Pole." Air Force Research Laboratory. \$85,000.00. *Contract number: FA8650-07-D-1220-Task #6.* (**PI:** Alper Yilmaz, **CoI:** Randolph Moses)

11/2010-9/2012 "Wide Area Multimodal Sensor Exploitation for Detecting Human Threat Signatures." Air Force Research Laboratory. \$43,000.00. *Contract number: FA8650-07-D-1220-Task #6.* (**PI:** Alper Yilmaz, **CoI:** Randolph Moses)

3/2010-9/2011 "Method and tool development to support systematic quantification of uncertainties." Idaho National Labs/Battelle Energy Alliance, LLC. \$369,986.00. *Contract Number: Cont 42898 Task Rel 21.* (**PI:** Tunc Aldemir, **CoIs:** Richard Denning, Carol Smidts, Xiadong Sun, Umit Catalyurek, Alper Yilmaz)

- 4/2010-7/2011 "Image Georegistration, Camera Calibration and Dismount Categorization In Support of DEBU from Layered Sensing." Air Force Research Laboratory. \$328,980.00. *Contract number: FA8650-07-D-1220-Task #5.* (**PI:** Alper Yilmaz, **CoIs:** Mateen Rizki, Charles Toth)
- 8/2008-7/2011 "Enhancement of spatial orientation capability of astronauts on the lunar surface." NASA-National Space Biomedical Research Institute. \$1,200,000.00. *Contract Number: NCC 9-58-351.* (**PI:** Ron Li, **CoI:** Alper Yilmaz, Kaichang Di, Martin Banks)
- 9/2007-1/2009 "Real-time analysis of urban and rural environments for source assessment from a network of video cameras." DOD Counterintelligence Field Activity Behavioral Science Directorate. \$111,247.00. *Contract Number: H9C104-07-C-0009.* (**PI:** Alper Yilmaz)

Editorial Activities

Journal Editorial Board

- 2016-present **Editor-In-Chief.** ASPRS Photogrammetric Engineering and Remote Sensing Journal.
- 2017 **Editor,** Proceedings of the ISPRS Hannover Workshop.
- 2017-present **Editorial Board Member.** International Journal Engineering and Geosciences
- 2014-present **Associate Editor.** Computer Vision and Image Understanding, Elsevier.
- 2015 **Guest editor.** ISPRS International Journal of Geo-Information. Special issue on Tracking and Imaging.
- 2015 **Field Editor** on Sensor Fusion for GPS-denied Environments, Springer, Encyclopedia of GIS
- 2006-2011 **Associate Editor.** Machine Vision and Applications.

Conference Organizing Committee Membership

- 2019 Organizing Committee, Int. Soc. Photogrammetry & Remote Sensing (ISPRS) Geospatial Week Conference.
- 2019 Organizing Committee, IEEE CVPR Workshop on Photogrammetric Computer Vision
- 2018 Organizing Committee, Int. Soc. Photogrammetry & Remote Sensing (ISPRS) TCII Midterm Symposium
- 2017 Organizer, ISPRS Scientific Initiative: UAV Semantic Video Segmentation Challenge
- 2017 Chair of Technical Session on Dynamic Scene Analysis, Int. Soc. Photogrammetry & Remote Sensing (ISPRS) Hannover Workshop Series
- 2016 Chair of Technical Sessions, Chair of Theme Sessions, Chair of Special Sessions XXIII Int. Soc. Photogrammetry & Remote Sensing (ISPRS) Congress

- 2015 Chair, Int. Soc. Photogrammetry & Remote Sensing (ISPRS) GEOSPATIAL Symposium
- 2015 Science Committee Member, International Symposium on Computer Vision in Remote Sensing (CVRS)
- 2015 Science Committee Member, International Summer School on Mobile Mapping Technology (SS-MMT)
- 2015 Organizer, IEEE/ISPRS Workshop on Multi-Sensor Fusion for Dynamic Scene Understanding (MSF)
- 2014 Organizer, ISPRS TIC: The Tracking and Imaging Challenge (TIC'14)
- 2014 Area Chair, ISPRS TC III Symposium on Photogrammetric Computer Vision (ISPRS PCV)
- 2014 Organizer, IEEE/ISPRS Workshop on Multi-Sensor Fusion for Outdoor Dynamic Scene Understanding (MSF)
- 2014 Area Chair, IEEE Winter Applications of Computer Vision Conference (WACV)
- 2013 Organizer, ISPRS Image Sequence Analysis Workshop (ISPRS ISA)
- 2012 Publicity Chair, IEEE Advanced Video and Signal Based Surveillance (AVSS)
- 2011 Area Chair, ACM SIGHIT International Health Informatics Symposium (ACM-IHI)
- 2010 Area Chair, IAPR International Conference on Pattern Recognition (ICPR)
- 2010 Session Chair, IAPR International Conference on Pattern Recognition (ICPR)
- 2008 Area Chair, IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)

Conference Technical Program Committee Membership

- 2019 International Conference on 3D Vision, September 2019
- 2019 International Program Committee member, 2nd Conference on Graphics, Patterns and Images (SIBGRAPI)
- 2016-present International Conference on Computer Vision Theory and Applications (VISAPP)
- 2015-present British Machine Vision Conference
- 2015 AAAI Conference on Artificial Intelligence
- 2014 IEEE Workshop on Applications for Aerial Video Exploration
- 2014 IEEE Int. Symp. on Robot and Human Interactive Communication (RO-MAN)
- 2014 Canadian Conference on Computer and Robot Vision (CRV)
- 2012-present IEEE Int. Conf. on Advanced Video and Signal based Surveillance (AVSS)
- 2011 IEEE ICCV Workshop on Performance Evaluation on Recognition of Human Actions and Pose Estimation Methods (ICCV/PERHAPS)

2011	IEEE ICCV Workshop on Computer Vision for Remote Sensing of the Environment (ICCV/CVRS)
2010-2011	Int. Conf. on Computer Graphics, Imaging and Visualization (CGIV)
2010	IEEE International Conference on Advanced Video and Signal-Based Surveillance
2008-present	European Conference on Computer Vision (ECCV)
2007-present	IEEE International Conference on Computer Vision (ICCV)
2006-present	IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)
2004-present	IAPR International Conference on Pattern Recognition (ICPR)

Book Reviewer

2011	J. N. Kutz, "Scientific Computing and Data Analysis," Oxford University Press.
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Professional Activities

03/2017	Review Panel Member , National Science Foundation (Environmental Monitoring Panel)
10/2016	Proposal Reviewer , ETH Zurich Research Commission
12/2016	Selection Committee Member , ASPRS 2016-2017 Paper Awards
12/2016	Selection Committee Member , ASPRS Altenhofen Scholarship
04/2016	Advisory Committee Member , Intelligent Transportation Systems University Grand Challenge
04/2014	Proposal Reviewer , NASA Postdoctoral Program (NPP)
04/2014	Proposal Reviewer , ETH Zurich Research Commission
03/2014	Proposal Reviewer , National Science Foundation (Division of Information and Intelligent Systems Smart Health Program)
11/2012	Proposal Reviewer , Portuguese Foundation for Science and Technology (FCT)
07/2012	Review Panel Member , National Science Foundation (Division of Information and Intelligent Systems Smart Health Program)
03/2012	Review Panel Member , National Science Foundation (Robust Intelligence Program)
03/2010	Proposal Reviewer , National Science Foundation (Division of Engineering Education and Centers)
03/2009	Review Panel Member , National Science Foundation (Robust Intelligence Program)
02/2009	Proposal Reviewer , National Science Foundation (Information Integration and Informatics Program)

Student Life Activities

08/2017	Mentor, OSU Office of Diversity and Inclusion, Post-Baccalaureate Preparation Program
03/2014	Evaluator, OSU University Fulbright Campus Evaluation Committee
03/2013	Evaluator, OSU University Fulbright Campus Evaluation Committee

04/2011 Evaluator, OSU College of Engineering Denman Undergraduate Research Forum

List of Offices Held and Services to Professional Societies

2018-present **Chair, Publications Committee**, American Society for Photogrammetry and Remote Sensing (ASPRS)

2016-present **Member, Scholarship Committee**, American Society for Photogrammetry and Remote Sensing (ASPRS)

2016-present **Member**, IEEE Computer Society Technical Committee on Intelligent Informatics

2016-present **Member**, IEEE Computer Society Technical Committee on Multimedia Computing

2010-present **Member**, IEEE Computer Society Technical Committee on Pattern Analysis and Machine Intelligence

2016-present **Member**, IEEE Computer Society Technical Committee on Social Networking

2016-present **Member**, IEEE Computer Society Technical Committee on Wearable and Ubiquitous Computing

2016-present **Chair, Commission II WG II/5**, International Society for Photogrammetry and Remote Sensing (ISPRS)

2014-2017 **Committee Member, Publications and Publicity Committee**, International Association for Pattern Recognition (IAPR)

2012-2016 **Co-Chair, Commission III WG III/3**, International Society for Photogrammetry and Remote Sensing (ISPRS)

2010-present **Active Member**, American Society for Photogrammetry and Remote Sensing (ASPRS)

2009-2010 **Treasurer, Special Group on Health Informatics**, Association for Computing Machinery (ACM)

2003-present **Active Member**, Association for Computing Machinery (ACM)

2001-present **Active Member**, IEEE Computer Society

1999-present **Active Member**, Institute of Electrical and Electronics Engineers (IEEE)

Service

Depositions in which Dr. Nemire provided expert testimony

9/30/2020 Courtney Jayne v. City Of Sioux Falls, Sioux Falls, SD xxxxxxx [plaintiff]

Administrative

Academic Unit Committees

2018-present **Member, Grad Curriculum Renewal**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.

- 2018-2020 **Chair, Promotion and Tenure Committee**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.
- 2017-2018 **Member, Promotion and Tenure Committee**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.
- 2016-2017 **Chair, Workload committee**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.
- 2016-2017 **Member, Mentoring committee**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.
- 2013-2020 **Member, Executive Committee**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.
- 2015-2016 **Chair, Faculty search committee**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.
- 2014-2015 **Chair, Faculty search committee**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.
- 2012-2014 **Member, Scholarship Committee**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.
- 2011-2014 **Member, Undergraduate Studies Committee**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.
- 2009-2011 **Member, Graduate Studies Committee**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.
- 2011 **Member, Ad-hoc Committee on Organization of Geodetic Science and Remote Sensing Courses for Semester Conversion**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.
- 2007-2009 **Member, Computer Committee**, Dept. of Civil Environmental and Geodetic Engineering, The Ohio State University.

Academic Program Committees

- 2010-2014 **Member, Graduate Studies Committee**, Geodetic Science Graduate Program, The Ohio State University.
- 2010-2011 **Graduate Interdisciplinary Specialization Semester Conversion Committee**, The Ohio State University.
- 2009 **PPAT, Ad-hoc committee on restructuring of Geodetic Science Graduate Program**, Geodetic Science Graduate Program, The Ohio State University.

Academic College Committees

- 2017-2020 **Member, Promotion and Tenure Committee**, Engineering College, The Ohio State University.
- 2017 **Procedures Oversight Designee (POD)**, Engineering College, The Ohio State University.

Academic University Committees

- 2014-2017 **Member, University Research Committee**, The Ohio State University.
- 2013-2016 **Senator, University Senate**, The Ohio State University.
- 2013-2016 **Member, Faculty Council**, The Ohio State University.

- 2015-2016 **Member, Council on the Physical Environment (COPE),** The Ohio State University.
- 2011, 2013 **Faculty Member, Fulbright Campus Evaluation Panel,** The Ohio State University.