Mustafa Üstüner

CONTACT
INFORMATION

Yildiz Technical University
Department of Geomatic Engineering
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RESEARCH
INTERESTS

Remote Sensing, Polarimetric SAR (Synthetic Aperture Radar), Applied Machine Learning

CURRENT
POSITION

Research Assistant, Yildiz Technical University   March 2011 to present
     Department of Geomatic Engineering

EDUCATION

Yildiz Technical University, Istanbul, Turkey

Ph.D., Remote Sensing and GIS & Geomatic Engineering   February 2020
   • Supervisors: Assoc. Prof. Dr. Fusun Balik Sanli & Assoc. Prof. Dr. Gokhan Bilgin

M.S., Remote Sensing and GIS & Geomatic Engineering   January 2014
   • Supervisor: Assoc. Prof. Dr. Fusun Balik Sanli

Karadeniz Technical University, Trabzon, Turkey

B.S., Geodesy and Photogrammetry Engineering,   June 2010

VISITING
RESEARCH

Friedrich Schiller University, Jena, Germany

Visiting Scholar, Institute of Geography, Department of Earth Observation,   April 2018–Feb. 2019

University of South Florida St. Petersburg (USFSP), St. Petersburg, FL, USA

Visiting Scholar, Geo-Spatial Analytics Lab,   May–July 2013

JOURNAL
PUBLICATIONS

See my **Google Scholar**, **ORCID**, and **Scopus**

[1] **M. Ustuner** and F. B. Sanli. Polarimetric Target Decompositions and Light Gradient Boosting Machine for Crop Classification: A Comparative Evaluation *ISPRS International Journal of Geo-Information*,8(2):97, February 2019
doi:10.3390/ijgi8020097

[2] R. Nasirzadehdizaji.,F. B. Sanli, S. Abdikan, Z. Cakir, A.I. Sekertekin and **M. Ustuner**. Sensitivity Analysis of Multi-Temporal Sentinel-1 SAR Parameters to Crop Height and Canopy Coverage. *Applied Sciences*, 9(4):655, February 2019
doi:10.3390/app9040655

[3] M. T. Esetlili.,F. B. Balcik, F. B. Sanli, **M. Ustuner**, K. Kalkan, C. Goksel,,C. Gazioglu, and Y. Kurucu. Comparison of Object and Pixel-Based Classifications For Mapping Crops Using Rapideye Imagery: A Case Study Of Menemen Plain, Turkey. *International Journal of Environment and Geoinformatics*, 5(2):231-243, August 2018
doi:10.30897/ijegeo.442002

[4] **M. Ustuner** and F. B. Sanli. Evaluating Training Data For Crop Type Classification Using Support Vector Machines And Random Forests. *Geodetski Glasnik*, 48(1):125-133, November 2017

[5] **M. Ustuner**., M. T. Esetlili, F. B. Sanli, S. Abdikan, and Y. Kurucu. Comparison of Crop Classification Methods for the Sustainable Agriculture Management. *Journal of Environmental Protection and Ecology*, 17(2):648–655, July 2016

[6] **M. Ustuner.**, F. B. Sanli, and B. Dixon. Application of Support Vector Machines for Landuse Classification Using High-Resolution RapidEye Images: A Sensitivity Analysis. *European Journal of Remote Sensing*, 48(1):403–422, November 2015, doi:10.5721/EuJRS20154823

[7] S. Abdikan., G. Bilgin, F. B. Sanli, E. Uslu, and **M. Ustuner**. Enhancing land use classification with fusing dual-polarized TerraSAR-X and multispectral RapidEye data *Journal of Applied Remote Sensing*, 9(1):096054, May 2015, doi:10.1117/1.JRS.9.096054

CONFERENCE PUBLICATIONS & ABSTRACTS

[8] **M. Ustuner** and F. B. Sanli. Multitemporal SAR Classification of Urban Areas using Extremely Randomized Trees. In: *Abstract book of International Symposium on Applied Geoinformatics (ISAG-2019)*, Published in November, 2019. (Only abstract published)

[9] **M. Ustuner** and F. B. Sanli. Regularized Greedy Forests for Polarimetric SAR Image Classification. In: *Abstract book of XXIX International Symposium on ıModern Technologies, Education and Professional Practice in Geodesy and Related Fieldsı*, Published in November, 2019. (Only abstract published)

[10] **M. Ustuner**, F. B. Sanli, S. Abdikan, G. Bilgin and C. Goksel. A booster analysis of extreme gradient boosting for crop classification using PolSAR imagery. In: *8th International Conference on Agro-Geoinformatics, Agro-Geoinformatics 2019*, July 16-19, 2019. doi:10.1109/Agro-Geoinformatics.2019.8820698

[11] S. Abdikan, C. Bayik, **M. Ustuner**, and F. B. Sanli. An Assessment of Urban Area Extraction Using ALOS-2 Data. In: *9th International Conference on Recent Advances in Space Technologies, RAST2019*, June 11-14, 2019. doi:10.1109/RAST.2019.8767819

[12] **M. Ustuner.**, S. Abdikan, and F. B. Sanli. Classification of Forested Areas Using Morphological Profiles in Dual Polarised ALOS/PALSAR Data. In: *Proceedings of the IX Conference of the Italian Society of Remote Sensing (AIT2018)*, Published in July, 2019. doi:10.978.88944687/17

[13] **M. Ustuner**, F. B. Sanli, S. Abdikan, E. Erten and C. Lopez-Martinez. Evaluating the Cloude-Pottier Decomposition for Crop Classification using Multi-Temporal Radarsat-2 Data. In: *POLinSAR 2019, 9th International Workshop on Science and Applications of SAR Polarimetry and Polarimetric Interferometry*, January 28-February 1, 2019 (Only extended abstract published)

[14] **M. Ustuner**, F. B. Sanli, S. Abdikan, and G. Bilgin. An Application of Roll-invariant Polarimetric Features For Crop Classification From Multi-temporal RADARSAT-2 SAR Data. In: *Proceedings of the ISPRS TC I Midterm Symposium Innovative Sensing - From Sensors to Methods and Applications*, October 10-12, 2018, doi:10.5194/isprs-archives-XLII-1-451-2018

[15] S. Abdikan, AI. Sekertekin, **M. Ustuner**, and F. B. Sanli. Backscatter Analysis Using Multi-Temporal Sentinel-1 SAR Data for crop growth of maize in Konya Basin, Turkey. In: *Proceedings of the ISPRS Technical Commission III Symposium on "Developments, Technologies and applications in Remote Sensing"*, May 7–10, 2018 doi:10.5194/isprs-archives-XLII-3-9-2018

[16] U. Gokdag, **M. Ustuner**, G. Bilgin, and F. B. Sanli. Kernel Extreme Learning Machines for PolSAR Image Classification using Spatial Features. In: *Proceedings of the IEEE 26th Signal Processing and Communications Applications Conference (SIU2018)*, May,2018.

[17] **M. Ustuner**, U. Gokdag, G. Bilgin, and F. B. Sanli. Comparing the Classification Performances of Supervised Classifiers with Balanced and Imbalanced SAR Data Sets. In:*Proceedings of the IEEE 26th Signal Processing and Communications Applications Conference (SIU2018)*, May,2018.

[18] **M. Ustuner.**, G. Bilgin, and F. B. Sanli. Classification of Sentinel-1A SAR Data Using Principal Component Analysis and Kernel Principal Component Analysis. In: *Proceedings of the International Symposium on GIS Applications in Geography and Geosciences (ISGGG 17)*, October 18–21, 2017.

[19] **M. Ustuner**., F. B. Sanli, G. Bilgin, and S. Abdikan. Land use and cover classification of Sentinel-IA SAR imagery: A case study of Istanbul. In: *Proceedings of the IEEE 25th Signal Processing and Communications Applications Conference (SIU2017)*, May 15–18, 2017. doi:10.1109/SIU.2017.7960373

[20] Abdikan, S., **M. Ustuner**, F. B. Sanli, and G. Bilgin. Combining Landsat and ALOS data for land cover mapping. In: *Proceedings of the IEEE 25th Signal Processing and Communications Applications Conference (SIU2017)*, May 15–18, 2017. doi:10.1109/SIU.2017.7960379

[21] **M. Ustuner**., F. B. Sanli, and S. Abdikan. Balanced vs Imbalanced Training Data: Classifying Rapideye Data With Support Vector Machines. In: *Proceedings of the XXIII ISPRS Congress (ISPRS 16)*, July 12–19, 2016. doi:10.5194/isprs-archives-XLI-B7-379-2016

[22] Abdikan, S., F. B. Sanli, **M. Ustuner**,and F. Calo. Land Cover Mapping Using Sentinel-1 SAR Data. In: *Proceedings of the XXIII ISPRS Congress (ISPRS 16)*, July 12–19, 2016. doi:10.5194/isprs-archives-XLI-B7-757-2016

[23] F. B. Sanli, **M. Ustuner**, F. B. Balcik, and C. Goksel. Investigating the Influence of Training Set Size for Crop Type Classification using RapidEye. In: *Proceedings of the 27th International Cartographic Conference (ICC 2015)*, August, 2015.

[24] Balcik, F. B., F. B. Sanli, C. Goksel, and **M. Ustuner**. Coastal Zone Detection in Istanbul using Landsat 8 OLI Image. In: *Proceedings of the 27th International Cartographic Conference (ICC 2015)*, August, 2015.

[25] **M. Ustuner**., and F. B. Sanli. Testing the Sensitivity of Vegetation Indices for Crop Type Classification using RapidEye Imagery In: *Proceedings of the FIG Working Week 2015 (FIG 2015)*, May 17–21, 2015.

[26] Polat, Z.A, **M. Ustuner**, and M. Alkan. On the Way to Vision of Cadastre 2034: Cadastre 2014 Performance of Turkey In: *Proceedings of the FIG Working Week 2015 (FIG 2015)*, May 17–21, 2015.

[27] **M. Ustuner**., and F. B. Sanli. Crop Pattern Mapping Using Winner Takes All Classification In: *Wavelength 2015. RSPSoc* April, 2015.

[28] **M. Ustuner**., F. B. Sanli, S. Abdikan, T. Esetlili, and Y. Kurucu. Crop Type Classification Using Vegetation Indices of RapidEye Imagery. In: *Proceedings of the ISPRS Technical Commission VII Symposium*, September 29– October 2, 2014. doi:10.5194/isprsarchives-XL-7-195-2014

[29] Sanli, F. B., S. Abdikan, T. Esetlili, **M. Ustuner**, and F. Sunar. Fusion of terrasar-x and rapideye data: a quality analysis. In: *Proceedings of the ISPRS Conference on Serving Society with Geoinformatics (ISPRS2013-SSG)*, November 11– 17, 2013. doi:10.5194/isprsarchives-XL-7-W2-27-2013

[30] **M. Ustuner**., and F. B. Sanli. Comparison of Neural Network and ISODATA Classifiers for Land Cover Assessment Using Optical Data In: *Proceedings of the FIG Commission 3 Workshop 2012 Spatial Information, Informal Development, Property and Housing*,December 10– 14, 2012.

PROFESSIONAL SERVICE **Peer Reviews (Journals)**
- IEEE Transactions on Geoscience and Remote Sensing
- IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
- IEEE Access
- International Journal of Remote Sensing
- International Journal of Applied Earth Observation and Geoinformation
- Remote Sensing Letters
- Journal of Applied Remote Sensing
- European Journal of Remote Sensing
- Computers and Electronics in Agriculture
- IET Image Processing
- SN Applied Sciences
- Geocarto International

PROFESSIONAL MEMBERSHIPS	• IEEE Geoscience and Remote Sensing (IEEE GRSS) • International Society for Photogrammetry and Remote Sensing (ISPRS) • UK Remote Sensing and Photogrammetry Society (RSPSoc)
VOLUNTARY WORK	• Social Media Ambassador Lead for IEEE GRSS • Social Media Coordinator for ISPRS Student Consortium
REFERENCES	**Dr. Fusun Balik Sanli, Professor** (e-mail: fbalik@yildiz.edu.tr) • Yildiz Technical University, TURKEY **Dr. Barnali Dixon, Professor** (e-mail: bdixon@mail.usf.edu) • University of South Florida, USA **Dr. Fabiana Calo** (e-mail: calo.f@irea.cnr.it) • National Research Council of Italy (CNR) **Dr. Helmi Zulhaidi Bin Mohd Shafri** (e-mail: helmi@upm.edu.my) • Universiti Putra Malaysia, Malaysia **Dr. Pedram Ghamisi, Head of Machine Learning Group** (e-mail: p.ghamisi@gmail.com) • Helmholtz Institute Freiberg for Resource Technology, Germany