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INTERESTS: Machine learning, image processing, hyperspectral data analysis, ground penetrating radar, medical imaging, computer vision, statistical analysis, pattern recognition.

EDUCATION:

Doctor of Philosophy in Computer Sciences & Engineering 2006– 2011
University of Florida, Gainesville, USA

Master of Science in Electrical and Computer Engineering 2003– 2005
University of Louisville, Louisville, Kentucky, USA

Bachelor of Science in Electrical and Electronics Engineering 1999 – 2003
Middle East Technical University, Ankara, Turkey

WORK EXPERIENCE:

Associate Professor 2019 –
Department of Electrical and Electronics Engineering, Hacettepe University, Ankara, Turkey.

Assistant Professor 2013 – 2019
Department of Electrical and Electronics Engineering, Hacettepe University, Ankara, Turkey.

Instructor Dr. 2012 – 2013
Department of Computer Engineering, Middle East Technical University Northern Cyprus Campus, Güzelyurt, KKTC.

Postdoctoral Researcher 2011 – 2012
Department of Materials Science and Engineering, University of Florida, Gainesville, FL, USA.

Research Assistant 2006 – 2011
Department of Computer and Information Science and Engineering, Computational Science & Intelligence Lab, University of Florida, Gainesville, FL, USA

Research Assistant 2003 – 2005
Department of Electrical and Computer Engineering, Computer Vision and Image Processing Lab, University of Louisville, Louisville, KY, USA.

PUBLICATIONS:

SCI Indexed Journal Articles: (SCI, SCI-E)

1. K.G. Toker, **S.E. Yuksel**, "Spectral-Spatial Nearest Subspace Classifier for Hyperspectral Image Classification," *International Journal of Remote Sensing*, 43:6, 2106-2133, 2022. Doi: 10.1080/01431161.2022.2055986. (Q2)
2. O. Arik, **S.E. Yuksel**, "Camera Calibration Using Catenary," *IEEE Sensors Journal*, Feb. 2022. Doi: 10.1109/JSEN.2022.3150424. (Q2)
3. S. Kucuk, **S.E. Yuksel**, "Pointwise Mutual Information based Graph Laplacian Regularized Sparse Unmixing," *IEEE Geoscience and Remote Sensing Letters*, January 2022. Doi: 10.1109/LGRS.2022.3143302. (Q1)
4. S. Kucuk, **S.E. Yuksel**, "Total Utility Metric based Dictionary Pruning for Sparse Hyperspectral Unmixing," *IEEE Transactions on Computational Imaging*, vol. 7, pp. 562-572, May 2021. Doi: 10.1109/TCI.2021.3082764. (Q1)

5. F. Ulger, **S.E. Yuksel**, A. Yilmaz, "Anomaly Detection for Solder Joints Using β -VAE," *IEEE Transactions on Components, Packaging and Manufacturing Technology*, vol. 11, no. 12, pp. 2214-2221, Dec. 2021. Doi: 10.1109/TCPMT.2021.3121265. **(Best paper of the year nominee.)**
6. E. Oduncu and **S.E. Yuksel**, "An In-Depth Analysis of Hyperspectral Target Detection with Shadow Compensation via LiDAR," *Signal Processing: Image Communication*, Elsevier, Vol. 99, 2021. Doi: 10.1016/j.image.2021.116427 (Q2)
7. O. Torun, **S.E. Yuksel**, "Unsupervised Segmentation of LiDAR Fused Hyperspectral Imagery Using Pointwise Mutual Information," *International Journal of Remote Sensing*, 42:17, 6461-6476, 2021. Doi: 10.1080/01431161.2021.1939906 (Q2)
8. H. Aytaylan, **S.E. Yuksel**, "Fully-Connected Semantic Segmentation of Hyperspectral and LiDAR Data," *IET Computer Vision*, Volume 13, Issue 3, p. 285 – 293, April 2019. Doi: 10.1049/iet-cvi.2018.5067.
9. H. Irmak, G.B. Akar, **S.E. Yuksel**, "A MAP-Based Approach for Hyperspectral Imagery Super-resolution," *IEEE Transactions on Image Processing*, Volume: 27, Issue: 6, June 2018. Doi: 10.1109/TIP.2018.2814210 (Q1)
10. E. Oduncu and **S.E. Yuksel**, "An Investigation of the Effect of Neighboring Objects to Shadow Areas on Real Data based on the Physical Radiance Model," *Journal of the Faculty of Engineering and Architecture of Gazi University*, 33:3, pp. 887-904, 2018. Doi: 10.17341/gazimmfd.416393
11. **S.E. Yuksel**, S. Kucuk, P. Gader, "SPICEE: An Extension of SPICE for Sparse Endmember Estimation in Hyperspectral Imagery," *IEEE Geoscience and Remote Sensing Letters*, 13(12), 1910-1914, 2016. Doi: 10.1109/LGRS.2016.2617316 (Q2)
12. **S.E. Yuksel**, P. Gader, "Context-based Classification Using a Mixture of Hidden Markov Models with Applications in Landmine Detection," *IET Computer Vision*, vol. 10, iss. 8, pp. 873 – 883, 2016. Doi: 10.1049/iet-cvi.2016.0138
13. **S.E. Yuksel**, J. Bolton, P. Gader, "Multiple Instance Hidden Markov Models with Applications to Landmine Detection," *IEEE Transactions on Geoscience and Remote Sensing*, vol.53, no.12, pp.6766-6775, Dec. 2015. Doi: 10.1109/TGRS.2015.2447576 (Q1)
14. **S.E. Yuksel**, T. Dubroca, R.E. Hummel, P.D. Gader, "Differential Reflection Spectroscopy: A Novel Method for Explosive Detection," *Acta Physica Polonica A*, vol. 123, no. 2, pp. 263-264, February 2013. Doi: 10.12693/APhysPolA.123.263.
15. **S.E. Yuksel**, J. N. Wilson, P. D. Gader, "Twenty Years of Mixture of Experts", *IEEE Transactions on Neural Networks and Learning Systems*, Vol. 23, issue 8, pp. 1177 - 1193 2012. Doi: 10.1109/TNNLS.2012.2200299 (Q1)
16. **S.E. Yuksel**, Ayman El-Baz, Aly A. Farag, M. El-Ghar, T. Eldiasty and M. A. Ghoneim, "A Kidney Segmentation Framework for Dynamic Contrast Enhanced Magnetic Resonance Imaging", *Journal of Vibration and Control*, Vol. 13, no. 9-10, pp. 1505-1516, 2007. Doi: 10.1177/1077546307077417

SCI Indexed Journal Articles Under Consideration: (SCI, SCI-E)

17. M. Oturak, **S. E. Yuksel**, S. Kucuk, "Multi-source Domain Adaptation of GPR Data for IED Detection," under review.
18. O. Arık, **S.E. Yuksel**, "Mobile Camera Calibration Using Building Images and Onboard Accelerometer," under review.

Other Indexed Journal Articles (TR-Dizin):

1. **S.E. Yuksel**, S. Küçük, V. Tekeli, B. Kılıç, R.H. Karakaya, M.B. Zeka, "A Study on the Comparison of Spectroscopy-based Methods Used in the Detection of Improvised Explosive Devices and Explosives," *The Journal of Defense Sciences*, issue 39, pp. 29-65, May 2021.
2. M. E. Yuksel, S. Küçük, **S.E. Yuksel**, E. Erdem, "Deep Learning for Medicine and Remote Sensing: A Brief Review," *International Journal of Environment and Geoinformatics*, December 2020.
3. S. Küçük, **S.E. Yuksel**, "Unmixing of Hyperspectral Data Using Spectral Libraries," *International Journal of Environment and Geoinformatics*, April 2020.
4. **S.E. Yuksel**, M. Boyacı, "The Effect of the LiDAR Sensor on the Success of Shadow Detection from Hyperspectral Data," *Pamukkale Uni. Journal of Engineering Sciences*, 24(2), pp. 198-204, 2018. Doi: 10.5505/pajes.2016.13281

5. **S.E. Yuksel**, A. Karakaya, "Fusion of Target Detection Algorithms in Hyperspectral Images," *International Journal of Intelligent Systems and Applications in Engineering*, 4(4), 103-110, 2016.
6. **S.E. Yuksel**, "Validation of Registration for Renal Dynamic Contrast Enhanced MRI Imaging," *International Journal of Intelligent Systems and Applications in Engineering*, 4(3), 57-65, 2016. Doi: 10.18201/ijisae.45496

Book:

1. **S.E. Yuksel**, "Context-based classification", LAMBERT Academic Publishing, March 22, 2012. ISBN: 978-3-8465-8323-4. Link: <http://amzn.com/3846583235>. (Published from Ph.D. Dissertation)

Book Chapters:

1. A. El-Baz, A.A. Farag, **S.E. Yuksel**, M.A. El-Ghar, T. A. Eldiasty and M.A. Ghoneim, "Application of Deformable Models for The Detection of Acute Renal Rejection", in *Deformable Models: Biomedical and Clinical Applications (Topics in Biomedical Engineering. International Book Series)*, J. S. Suri and A. A. Farag Editors, Springer, New York, July 2007. ISBN: 978-0-387-31201-9.

Full-length Conference Proceedings in English:

1. I. Belenoğlu, M. Yalçın, **S. E. Yuksel**, A Koz, "Target Detection over Temperature Profiles," IGARSS 2022 .
2. M. Dede, B. Abaci, **S.E. Yuksel**, M. Yilmaz, "Mucilage detection from hyperspectral and multispectral satellite data," Algorithms, Technologies, and Applications for Multispectral and Hyperspectral Imaging XXVIII, 2022.
3. E. Erarslan Altindag, **S.E. Yuksel**, "Threat detection in x-ray baggage security imagery using convolutional neural networks," Anomaly Detection and Imaging with X-Rays (ADIX) VII, 2022.
4. A. Koz, İ. Belenoğlu, **S.E. Yuksel** and A. Alatan, "Target Rediscovery on Long-wave Infrared Hyperspectral Images using Radiance and Emissivity Data," *SET-277 Workshop on Phenomenology and Exploitation of Hyperspectral Sensing within NATO*, 14-15 October 2019 – Royal Military Academy, Brussels, Belgium.
5. F. Ulger, **S.E. Yuksel**, "A Standalone Open-Source System for Optical Inspection of Printed Circuit Boards," *Signal Processing: Algorithms, Architectures, Arrangements, and Applications (SPA)*, 2019.
6. K. G. Toker, **S.E. Yuksel**, "Deep canonical correlation analysis for hyperspectral image classification," *SPIE Remote Sensing International Symposium*, 2019. (talk)
7. **S. E. Yuksel**, M. Oturak, K. G. Toker, "Transfer learning on GPR data for IED detection in various environments," *SPIE Security + Defence International Symposium*, September 2019.
8. E. Aydin, **S.E. Yuksel**, "Transfer and Multitask Learning using Convolutional Neural Networks for Buried Wire Detection from Ground Penetrating Radar Data," *SPIE Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XXIV*, Baltimore, 2019. Doi: 10.1117/12.2518875
9. H. Irmak, G.B. Akar, **S.E. Yuksel**, "Image Fusion for Hyperspectral Image Super-Resolution", *IEEE Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS)*, June 2018.
10. K. G. Toker, **S.E. Yuksel**, "Hyperspectral Unmixing via Convolutional Neural Network," *International Workshop on Mathematical Methods in Engineering*, April 2017.
11. H. Aytaylan, **S.E. Yuksel**, "Semantic Segmentation of Hyperspectral Images with the Fusion of Lidar Data," *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 2016. Doi: 10.1109/IGARSS.2016.7729651
12. H. Irmak, G.B. Akar, **S.E. Yuksel**, H. Aytaylan, "Super-Resolution Reconstruction of Hyperspectral Images via an Improved Map-Based Approach", *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 2016.
13. B. Baydar, G.B. Akar, **S.E. Yuksel**, S. Ozturk, "Fusion of KLMS and Blob Based Pre-Screener for Buried Landmine Detection Using Ground Penetrating Radar," *SPIE Defense and Security: Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XXI*, Baltimore, April 2016. Doi: 10.1117/12.2223743

14. O. Torun, **S.E. Yuksel**, "Using k-way Normalized Cuts to Integrate LiDAR and Hyperspectral Imagery for Segmentation," *Hyperspectral Imaging and Sounding of the Environment (HISE)*, 2016.
15. S.Küçük and **S.E.Yuksel**, "Comparison of Rx-Based Anomaly Detectors on Synthetic and Real Hyperspectral Data", *IEEE workshop on hyperspectral image and signal processing (WHISPERS)*, Tokyo, 2-5 June 2015. Doi: 10.1109/WHISPERS.2015.8075504
16. H. Irmak, G. B. Akar and **S.E.Yuksel**, "A Map-Based Approach to Resolution Enhancement of Hyperspectral Images", *IEEE workshop on hyperspectral image and signal processing (WHISPERS)*, Tokyo, 2-5 June 2015. Doi: 10.1109/WHISPERS.2015.8075492
17. Mustafa Boyaci, **S.E.Yuksel**, "Locating the shadow regions in LIDAR data: results on the SHARE 2012 dataset", *SPIE Defense and Security: Algorithms and Technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery XXI*, Baltimore, April 2015. Doi: 10.1117/12.2176993
18. Erdinc Gunes, **S.E.Yuksel**, "Effect of endmember clustering on proportion estimation: results on the Share 2012 dataset", *SPIE Defense and Security: Algorithms and Technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery XXI*, April 2015. Doi: 10.1117/12.2176939
19. **S.E.Yuksel**, G.B. Akar, S. Ozturk, "Fusion of forward-looking infrared camera and down-looking ground penetrating radar for buried target detection", *SPIE Defense and Security: Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XX*, Baltimore, April 2015. Doi: 10.1117/12.2176735
20. **S.E. Yuksel**, J. Bolton, P. Gader, "Landmine Detection with Multiple Instance Hidden Markov Models", *IEEE International Workshop on Machine Learning for Signal Processing (MLSP)*, pp. 1-6, September 2012. Doi: 10.1109/MLSP.2012.6349734
21. **S.E. Yuksel**, P. Gader, "Mixture of HMM Experts with Applications to Landmine Detection", *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pp. 6852 – 6855, July 2012.
22. **S.E. Yuksel**, T. Dubroca, R. Hummel, P. Gader, "An automatic detection software for differential reflection spectroscopy," *SPIE Defense, Security, and Sensing: Algorithms and Technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery XVIII*, Vol. 8390, pp. 83900B, May 2012.
23. A. Zare, P. Gader, J. Bolton, **S.E. Yuksel**, T. Dubroca, R. Close, R. Hummel, "Sub-pixel Target Spectra Estimation and Detection Using Functions of Multiple Instances," *IEEE Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS)*, pp.1-4, June 2011.
24. **S.E. Yuksel**, T. Dubroca, R. Hummel, P. Gader, "Spectral Analysis for the Detection of Explosives with Differential Reflectometry," *Grace Hopper Conference*, pp. 46-52, 2011.
25. **S.E. Yuksel**, P. Gader, "Variational Mixture of Experts for Classification with applications to landmine detection", *International Conference on Pattern Recognition (ICPR)*, pp. 2981-2984, 2010.
26. X. Zhang, **S.E. Yuksel**, P. Gader, J. Wilson, "Simultaneous Feature and HMM Model Learning for Landmine Detection using Ground Penetrating Radar," *Workshop on Pattern Recognition in Remote Sensing (PRRS)*, pp. 1-4, 2010.
27. **S.E. Yuksel**, P.J. Dobbins, "Engineering education for the net generation: A case study of how students use resources in software engineering", *International Engineering Education Conference (IEEC)*, pp. 179-182, 2010.
28. **S.E. Yuksel**, G. Ramachandran, P. Gader, J. Wilson, D. Ho, G. Heo, "Hierarchical methods for landmine detection with wideband electro-magnetic induction and ground penetrating radar multi-sensor systems," *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, vol.2, pp. II-177-II-180, 7-11 July 2008.
29. A. El-Baz, A.A. Farag, R. Fahmi, **S.E. Yuksel**, M.A. El-Ghar, T. Eldiasty, "Image Analysis of Renal DCE-MRI for the Detection of Acute Renal Rejection," *IEEE 18th International Conference on Pattern Recognition (ICPR)*, (3) 2006, pp. 822-825.
30. A.A. Farag, A. El-baz, H. E. Abd El Munim, and **S.E. Yuksel**, "Level Set Segmentation using Statistical Shape Priors," *Proceedings of the Conference on Computer Vision and Pattern Recognition Workshop (CVPRW)*, NY, USA, June 17-18, 2006, pp. 78-85.
31. A. Farag, A. El-Baz, **S.E. Yuksel**, M.A. El-Ghar, T. Eldiasty, "A Framework for the Detection of Acute Renal Rejection with Dynamic Contrast Enhanced Magnetic Resonance Imaging," *Proceedings of International Symposium on Biomedical Imaging (ISBI)*, Arlington, Virginia, April 2006, pp.418 - 421.
32. A. El-Baz, R. Fahmi, **S.E. Yuksel**, A.A. Farag, W. Miller, M.A. El-Ghar, T. Eldiasty, "A New CAD System for the Evaluation of Kidney Diseases Using DCE-MRI," *Lecture Notes in*

- Computer Science, Medical Image Computing and Computer-Assisted Intervention, Springer, Vol. 4191, pp. 446-453, 2006. **(Engineering Index: EI)**
33. A. El-Baz, **S.E. Yuksel**, H. Shi, A.A. Farag, M.A. El-Ghar, T. Eldiasty, and M. A. Ghoneim, "2D and 3D Shape Based Segmentation Using Deformable Models," Lecture Notes in Computer Science, Medical Image Computing and Computer-Assisted Intervention, Springer, Vol. 3750, pp. 821-829, 2005. **(Engineering Index: EI)**
 34. **S.E. Yuksel**, A. El-Baz, A.A. Farag, M.E.A. El-Ghar, T.A. Eldiasty, and M.A. Ghoneim, "Automatic detection of renal rejection after kidney transplantation," *Proc. of Computer Assisted Radiology and Surgery (CARS)*, Germany, 2005, pp.773-778.
 35. A. El-Baz, **S.E. Yuksel**, S. Elshazly, and A. A. Farag, "Non-rigid registration techniques for automatic follow-up of lung nodules," *Proc. of Computer Assisted Radiology and Surgery (CARS)*, Berlin, Germany, June 22-25, 2005, pp. 1115-1120.

Full-length Conference Proceedings in Turkish:

1. S.Kucuk, B. Abaci, M. Dede, **S.E.Yuksel** and M. Yilmaz, "Analysis and Detection of Mucilage Bloom from Multispectral Satellite Images", *IEEE Signal Processing and Communications Applications Conference (SIU)*, 2022.
2. M. Eryilmaz, M. Cil, S.R. Akturk, M. Tilegi, A. Yilmaz, **S.E. Yuksel**, D. Gokcen, "Defect Classification from Electronic Card Images by Deep Learning", *IEEE Signal Processing and Communications Applications Conference (SIU)*, 2022.
3. S.Küçük and **S.E.Yuksel**, "Utility Metric for Subset Dictionary Selection in Semi-Blind Hyperspectral Unmixing," *IEEE Signal Processing and Communications Applications Conference (SIU)*, October 2020.
4. B. Akdemir and **S.E. Yuksel**, "Accessible and Automatized Recycling System Using Computer Vision Techniques", *X. Türkiye Ulusal Fotogrametri ve Uzaktan Algılama Birliği (TUFUAB) Teknik Sempozyumu*, Aksaray, Turkey, 25-27 Nisan, 2019.
5. S. Küçük and **S.E. Yuksel**, "Unmixing of Hyperspectral Data Using Spectral Libraries", *X. Türkiye Ulusal Fotogrametri ve Uzaktan Algılama Birliği (TUFUAB) Teknik Sempozyumu*, Aksaray, Turkey, 25-27 Nisan, 2019.
6. M.E. Yuksel, E. Erdem and **S.E. Yuksel**, "Deep Learning in Remote Sensing", *X. Türkiye Ulusal Fotogrametri ve Uzaktan Algılama Birliği (TUFUAB) Teknik Sempozyumu*, Aksaray, Turkey, 25-27 Nisan, 2019.
7. M. Salman and **S.E. Yuksel**, "Fusion of hyperspectral image and LiDAR data and classification using deep convolutional neural networks", *IEEE Signal Processing and Communications Applications Conference (SIU)*, Izmir, Turkey, 2-5 May, 2018. Doi: 10.1109/SIU.2018.8404199
8. K.G. Toker and **S.E. Yuksel**, "A greedy algorithm for sparse unmixing", *IEEE Signal Processing and Communications Applications Conference (SIU)*, Izmir, Turkey, 2-5 Mayıs, 2018. Doi: 10.1109/SIU.2018.8404796
9. E. Aydin, **S.E. Yuksel**, "Transfer and Multitask Learning Method for Buried Wire Detection via GPR," *IEEE Signal Processing and Communications Applications Conference (SIU)*, Çeşme, 2-5 Mayıs, 2018. Doi: 10.1109/SIU.2018.8404496
10. E. Aydin, **S. E. Yuksel**, "Buried target detection with ground penetrating radar using deep learning method," *IEEE Signal Processing and Communications Applications Conference (SIU)*, Antalya, 2017. Doi: 10.1109/SIU.2017.7960299
11. H. Irmak, G. B. Akar, **S.E. Yuksel**, "Fusion based resolution enhancement in hyperspectral images," *IEEE Signal Processing and Communications Applications Conference (SIU)*, Antalya, 2017. Doi: 10.1109/SIU.2017.7960492
12. O. Torun, **S.E. Yuksel**, "LiDAR aided hyperspectral images segmentation using schroedinger eigenmaps," *IEEE Signal Processing and Communications Applications Conference (SIU)*, Antalya, 2017. Doi: 10.1109/SIU.2017.7960301
13. H. Irmak, G.B. Akar, **S.E. Yuksel**, "Hyperspectral Imagery Superresolution," *IEEE Signal Processing and Communications Applications Conference (SIU)*, Zonguldak, May, 2016.
14. A. Karakaya, **S.E. Yuksel**, "Target Detection in Hyperspectral Images," *IEEE Signal Processing and Communications Applications Conference (SIU)*, pp. 1501-1504, Zonguldak, May, 2016.
15. E. Oduncu, **S.E. Yuksel**, "Analyzing the Correlation of Sky-View Factor and Shadow Regions in Hyperspectral Data," *IEEE Signal Processing and Communications Applications Conference (SIU)*, Zonguldak, May, 2016.
16. M. Salman, **S.E. Yuksel**, "Hyperspectral Data Classification using Deep Convolutional Neural Networks," *IEEE Signal Processing and Communications Applications Conference (SIU)*, Zonguldak, May, 2016.

17. H. E. Mutlu, **S.E. Yuksel**, "Hyperspectral Image Classification via Support Vector Data Description," *IEEE Signal Processing and Communications Applications Conference (SIU)*, Zonguldak, May, 2016.
18. O. Torun, **S.E. Yuksel**, "Hyperspectral Image Segmentation Using Normalized Cuts," *IEEE Signal Processing and Communications Applications Conference (SIU)*, Zonguldak, May, 2016.
19. A.S. Aydogdu, **S.E. Yuksel**, L. Ozparlak, P. U. Hatipoglu, "LWIR and MWIR Images Dimension Reduction and Anomaly Detection with Locally Linear Embedding," *IEEE 23rd Signal Processing and Communications Applications Conference (SIU)*, Malatya, 16-19 May, 2015.
20. K.G. Toker, **S.E. Yuksel**, "Accelerating classification time in Hyperspectral Images", *IEEE 23rd Signal Processing and Communications Applications Conference (SIU)*, 2015.
21. M. Oturak **S.E. Yuksel**, "Aircraft Recognition from Satellite Images," *IEEE 23rd Signal Processing and Communications Applications Conference (SIU)*, Malatya, 2015.
22. S. Kucuk and **S.E. Yuksel**, "Hiperspektral Görüntülerde Son Eleman Tespiti", *7. Savunma Teknolojileri Kongresi (SAVTEK)*, June 2014.
23. **S.E. Yuksel**, "Endmember Detection using Enhanced Constrained Optimization in Hyperspectral Imaging ", *IEEE 22nd Signal Processing and Communications Applications Conference (SIU)*, pp. 1023-1026, 2014.

Dissertation & Thesis:

1. **S.E. Yuksel**, "Context-based classification via data-dependent mixtures of logistic and hidden Markov model classifiers", Doctor of Philosophy, University of Florida, Gainesville, FL, August 2011.
2. **S.E. Yuksel**, "Image Processing Methods for the Detection of Acute Rejection After Kidney Transplantation", Master of Science, University of Louisville, KY, December 2005.

Abstracts:

1. **S.E. Yuksel**, "Evolution of the Clusters for Time-Series Data", *Grace Hopper Conference*, Atlanta, pp.53, 2010.
2. A. El-Baz, A.A. Farag, **S.E. Yuksel**, M.A. El-Ghar and T. Eldiasty, "A Novel Approach for the Detection of Acute Rejection with Dynamic Contrast Enhanced Magnetic Resonance Imaging", *13th European Symposium on Urogenital Radiology (ESUR)*, 2006.

Other articles:

1. **S.E. Yuksel**, S. Küçük, E. Güneş, M. Boyacı, K.G. Toker, "Hacettepe Üniversitesi'nde Uzaktan Algılama Çalışmaları", *Elektrik Mühendisliği*, 2015.

Poster Presentations:

1. **S.E. Yuksel**, G. Ramachandran, P. Gader, J. Wilson, D. Ho, G. Heo, "Advances in landmine detection using WEMI and GPR data," *NSF Research Day*, October 13, 2009.
2. **S.E. Yuksel**, G. Ramachandran, P. Gader, J. Wilson, D. Ho, G. Heo, "Hierarchical methods for landmine detection with wideband electro-magnetic induction and ground penetrating radar multi-sensor systems," *Google Workshop for Women Engineers*, 2008.
3. **S.E. Yuksel**, A. El-Baz, A.A. Farag and G.C. Postel, "Automatic detection of renal rejection after kidney transplantation," *Research!Louisville*, Oct.31-Nov.4, 2005 (**1st place award**).

FUNDED PROJECTS:

1. Principal Investigator, "Mucilage Detection and Tracking from Multi-Band, Multi-Resolution and Multi-Satellite Data," Tubitak 1001, Project no: 121G085, Oct. 2021 – July 2022.
2. Consultant, "Card Comparison with a Portable Device", Aselsan - REHIS, 2019-2022.
3. Consultant, "Algorithm Development for a Hyperspectral Camera", Stage Gate 11, Schiphol, Netherlands, April 2017- June 2021.
4. Principal Investigator, "Fusion of Hyperspectral Imaging with LiDAR Data", Tubitak 3501 Career Grant, September 2015- 2018.

5. Researcher, "Realization of a Virtual Reality System for Children with Cerebral Palsy", Hacettepe BAP Project, February 2017 – February 2018.
6. Consultant, "Application of Fusion Methods for Target Detection and Classification using Ground Penetrating Radar", Tubitak Teydeb 1501 Grant, March 2015 – 2017.
7. Advisor, "Unmanned Aerial Vehicle Based Multi Spectral Analysis Study", Tubitak BİDEB 2209B(2241A) Industry Oriented Undergraduate Thesis Support Program, Project No: 1139B411502220, October 2015 – May 2016.
8. Consultant, "IGT-TUYGUN: Advanced Imaging Technologies Project for Hyperspectral Image Analysis and Target Detection", Funded by SSM & Havelsan Inc., March 2014-August 2015.
9. Consultant, "Data Fusion with Network Capabilities for Decision Support", Tubitak Teydeb 1507 Grant, 2014-2015.
10. Consultant, "Image Processing for Data Matrices", AGE Inc., 2014.
11. Researcher, "Standoff Detection of Explosive Materials by Differential Reflectometry", National Science Foundation (NSF), USA (01/01/2011 – 15/09/2012), PI: Prof. Rolf Hummel.
12. Researcher, "Autonomous Mine Detection Systems (AMDS)", Army Research Office, USA, PI: Prof. Paul Gader.
13. Researcher, "EXP-LA: Collaborative Research: Optimized Multi-algorithm Systems for Detecting Explosive Objects", PI: Prof. Paul Gader, National Science Foundation (NSF), USA, 09/01/2007 - 08/31/2010.
14. Investigating Researcher, "Image Analysis for Identification of Renal Transplant Rejection", PI's: Prof. Aly A. Farag and Tarek El-Diasty, National Science Foundation (NSF) Grant, USA, Budget: 60K. Project Duration: 9/1/06 – 9/1/08.

AWARDS & ACHIEVEMENTS:

- Selected by Schiphol International Airport to field test our prototype at an active security checkpoint in 2012, **Schiphol Security Innovation Days**, October 2011.
- Scholarship from **NSF** to attend GHC Conference, 2011.
- **College of Engineering Outstanding International Student Award**, UF, 2010.
- **1st Place Award**, Innovation through Institutional Integration NSF Contest, 2010.
- Scholarship from **Association for Computing Machinery (ACM)** to attend GHC 2010.
- Travel award from the Department of CISE, University of Florida, 2010.
- Travel award from the Graduate Student Council (GSC), University of Florida, 2010.
- Travel award from the Office of Research, University of Florida, 2010.
- **Phyllis M. Meek Spirit of Susan B. Anthony Award**, University of Florida, 2008.
- Travel award from **Google**, to attend the Google Workshop for Women Engineers, 2008.
- Two travel awards from **CRA** to attend CRA-W Grad Cohort, 2008 and 2009.
- Recognized in **Who's Who** Among Students in American Universities and Colleges, 2009.
- **Full assistantship** from Department of CISE, University of Florida, 2006 - 2011.
- **Full assistantship** by the CVIP Lab, University of Louisville, 2003 - 2005.
- **1st Place Award** in research competition, Research!Louisville, Louisville, KY, 2005.
- Travel award from the International Center of University of Louisville, 2005.
- Travel award from the Graduate School of University of Louisville, 2005.
- Member, Eta Kappa Nu (national electrical engineering honor society), invited in 2004.
- Member, Phi Kappa Phi (honor society), invited in 2004.
- Ranked **153rd in 1.5million** students in the university entrance exams, 1999.
- **1st Place Award** in Ministry of National Education (MEB) writing contest, 1995.

TEACHING EXPERIENCE:

National Defense University Spring 2019
ALP 4615, IED and Explosive Detection Technologies

Hacettepe University Fall 2013 -
ELE 301, Signals and Systems
ELE 302, Probability Theory
ELE 118, Computers and Programming II
ELE 407, Digital Signal Processing
ELE 237, Digital Design

ELE 673, Pattern Recognition
ELE 675, Image Processing
ELE 401, Graduation Project I
ELE 402, Graduation Project II

METU NCC Fall 2012 – Spring 2013
CNG 462, Introduction to Artificial Intelligence
CNG 384, Signals and Systems for Computer Engineers
CNG 230, Introduction to C Programming
CNG 466, Fundamentals of Image Processing
CNG 223, Discrete Mathematics
CNG 491, Graduation Project I
CNG 492, Graduation Project II

Substitute Teacher, University of Florida Spring 2009 - Fall 2009
CAP 6617, Advanced Machine Learning (3 weeks)
CAP 6610 Machine Learning (3 weeks)

Teaching Assistant, University of Florida Spring 2006- Fall 2010
CEN 3031 Introduction to Software Engineering
CGS3063 Computers and Modern Society

Instructor, University of Florida Summer 2008
IDH 2931 Artificial Intelligence and Machine Learning: State of the Art Applications.

Private Tutor 2000 - 2001
Uyum Tutoring, Ankara, Turkey

LEADERSHIP/SERVICE ACTIVITIES:

NATO SET-313 Panel Member, 2022- 2024:
Advanced Methods for Hyperspectral Data Exploitation.

NATO SET-ET-122 Panel Member, 2021- 2022:
Advanced Methods for Hyperspectral Data Exploitation.

NATO Set 240 Panel Member, 2016 - 2019:
Exploitation Methodologies for Longwave Infrared Airborne Hyperspectral Data.

Reviewer in SCI & SCI-E Journals:

IEEE Transactions on Neural Networks and Learning Systems,
IEEE Transactions on Systems, Man and Cybernetics,
IEEE Transactions on Geoscience and Remote Sensing,
IEEE Geoscience and Remote Sensing Letters,
IEEE Transactions on Image Processing,
IEEE Transactions on Biomedical Engineering,
IEEE Transactions on Knowledge and Data Engineering,
IEEE Transactions on Image Processing
Information Fusion,
Sensors,
Signal, Image and Video Processing,
Soft Computing,
Neurocomputing,
Journal of the Faculty of Engineering and Architecture of Gazi University,
Turkish Journal of Electrical Engineering & Computer Sciences,
Communications in Statistics - Simulation and Computation.
International Journal of Remote Sensing.

Program Committee

Hyperspectral Imaging and Sounding of the Environment (HISE), 2016
Signal and Image Processing (USGI) Workshop for Remote Sensing, 2014 – 2018.

Panel Organizer,

Grace Hopper Conference, Baltimore, 2012. "Securing our borders: are we there yet?"
Seminar organizer, CSI:Florida Lab, University of Florida, 2009 - 2010.
Graduate advisor, Society of Women Engineers (SWE), University of Florida, 2009 - 2010.
President, Turkish Student Association at University of Florida, 2006 - 2007.
Student member, Society of Women Engineers (SWE), 2004 - Present
Student volunteer at the IEEE Visualization Conference, Austin, Texas, 2004.
ECE representative, University of Louisville Graduate Student Council, 2003 - 2005.
 One of the **editors and writers** of ADA school magazine, 1995 - 1997.
 Member of **IEEE** (Inst. of Electrical and Electronics Eng.), **SWE** (Society of Women Engineers).

Invited Talks:

1. **S.E. Yuksel**, "What would you do with a hyperspectral camera on your cell-phone?", Middle East Technical University, Ankara, Turkey, 2022.
2. **S.E. Yuksel**, "Looking at Earth from Outer Space: Keeping the Seas Clean", Bilkent Laboratory and International School, 2022.
3. **S.E. Yuksel**, "Hyperspectral Imaging for Meat Safety", University of Parma, Italy, 2022.
4. **S.E. Yuksel**, "Hyperspectral Imaging for Meat Inspection", RIBMINS Cost Action, 2022.
5. **S.E. Yuksel**, "Seeing Beyond the Visible," Signal and Image Processing Conference, TED University, October 5th, 2019.
6. **S.E. Yuksel**, "Can you "see" the target in the shadow?", Bilkent University, Turkey, 2018.
7. **S.E. Yuksel**, "Can you "see" the target in the shadow?", Middle East Technical University, Ankara, Turkey, 2018.
8. **S.E. Yuksel**, "Hyperspectral and LiDAR data fusion", Summer School on Earth Observation Applications (UYGU), Gebze Technical University, Gebze, Turkey, 2018.
9. **S.E. Yuksel**, "Securing our borders: from landmine to explosive detection", Middle East Technical University, Ankara, Turkey, 2012.
10. **S.E. Yuksel**, "Advances in landmine detection", invited talk at the CNEL Lab, Department of Electrical and Computer Engineering, University of Florida, 2012.
11. **S.E. Yuksel**, "When databases meet datamining", Appalachian State University, Boone, NC, 2012.
12. **S.E. Yuksel**, "Context-based classification with mixture of hidden Markov model experts," Opera Solutions, San Diego, 2011.
13. **S.E. Yuksel**, "Variational and traditional mixture of experts for landmine detection," ARCON Cooperation, Boston, 2011.

SKILLS:

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- Programming: C, C++, C#, Python, MATLAB, ITK, VTK, Qt, OpenGL, HTML
 - Engineering Design Tools: HPVee, Workbench, Xilinx
 - Languages: English (fluent), Turkish (native)

OTHER EXPERIENCE:

Intern Engineer , Ayesas Software and Electronics, Ankara, Turkey.	Summer 2002
Intern Engineer , Aselsan Inc., Ankara, Turkey.	Summer 2001

STUDENTS SUPERVISED:

-
1. Hasan Irmak, Ph.D. from METU, 2016. (Co-advisor)
 2. Sefa Küçük, Ph.D., 2021.
 3. Erdinç Güneş, M.Sc., 2015
 4. Mustafa Boyacı, M.Sc., 2015
 5. Sefa Küçük, M.Sc., 2015
 6. Ahmet Karakaya, M.Sc., 2016
 7. Hakan Aytaylan, M.Sc., 2016
 8. Orhan Torun, M.Sc., 2017

9. Hüseyin Emre Mutlu, M.Sc., 2018
10. Enver Aydın, M.Sc., 2018
11. Emrah Oduncu, M.Sc., 2018
12. Mesut Salman, M.Sc., 2018.
13. Mehmet Oturak, M.Sc., 2018.
14. Fırat Gürbüz, M.Sc., 2019.
15. İlke Belenoğlu, M.Sc., 2019.
16. Batuhan Mert Severoğlu, M.Sc., 2020.
17. Şafak Öztürk, M.Sc., 2021.
18. Elif Erarslan, M.Sc., 2022.
19. Betül Sömek, M.Sc., 2022.

GRADUATE STUDENTS - ONGOING:

1. Kemal Gürkan Toker, Ph.D. candidate.
2. Okay Arık, Ph.D. candidate.
3. Orhan Torun, Ph.D. candidate.
4. Mahmut Esat Demirhan, Ph.D. candidate.
5. Bahri Abacı, Ph.D. student.
6. Burak Akdemir, Ph.D. student.
7. Metehan Yalçın, M.Sc. student
8. Mustafa Arda Ayden, M.Sc. student
9. Ferdi Akdoğan, M.Sc. student
10. Alğı Küçükyavuz, M.Sc. student