

Assoc. Prof. SENİHA ESEN YÜKSEL ERDEM

Personal Information

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Education Information

Doctorate, University Of Florida, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, United States Of America 2006 - 2011

Post Graduate, University Of Louisville, Mühendislik Fakültesi, Elektrik Ve Bilgisayar Mühendisliği Bölümü, United States Of America 2003 - 2005

Under Graduate, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Elektrik Ve Elektronik Mühendisliği Bölümü, Turkey 1999 - 2003

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Context-based classification via data-dependent mixtures of logistic and hidden Markov model classifiers, University Of Florida, Bilgisayar Mühendisliği, 2011

Post Graduate, Image Processing Methods For the Detection of Acute Rejection After Kidney Transplantation, University Of Louisville, Elektrik Ve Bilgisayar Mühendisliği, 2005

Research Areas

Computer Sciences, Artificial Intelligence, Computer Learning and Pattern Recognition, Pattern Recognition and Image Processing, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Hacettepe Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2018 - Continues

Assistant Professor, Hacettepe Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2013 - 2018

Lecturer PhD, Orta Doğu Teknik Üniversitesi, Odtu Kuzey Kıbrıs Kampusu (Kktc-Güzelyurt), 2012 - 2013

Expert, University Of Florida, Malzeme Mühendisliği, 2011 - 2012

Research Assistant, University Of Florida, Bilgisayar Mühendisliği, 2006 - 2011

Research Assistant, University Of Louisville, Elektrik Ve Bilgisayar Mühendisliği, 2003 - 2005

Advising Theses

YÜKSEL ERDEM S. E. , Hyperspectral imagery super-resolution, Doctorate, HIRMAK(Student), 2017

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Fully-connected semantic segmentation of hyperspectral and LiDAR data**
Aytaylan H., Yuksel S. E.
IET COMPUTER VISION, vol.13, pp.285-293, 2019 (Journal Indexed in SCI)
- II. **A MAP-Based Approach for Hyperspectral Imagery Super-Resolution**
Irmak H., AKAR G., YÜKSEL ERDEM S. E.
IEEE TRANSACTIONS ON IMAGE PROCESSING, vol.27, pp.2942-2951, 2018 (Journal Indexed in SCI)
- III. **An investigation of the effect of neighboring objects to shadow areas on real data based on the physical radiance model**
Oduncu E., YÜKSEL ERDEM S. E.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.33, pp.887-904, 2018 (Journal Indexed in SCI)
- IV. **Context-based classification via mixture of hidden Markov model experts with applications in landmine detection**
YÜKSEL ERDEM S. E. , Gader P. D.
IET COMPUTER VISION, vol.10, pp.873-883, 2016 (Journal Indexed in SCI)
- V. **SPICEE: An Extension of SPICE for Sparse Endmember Estimation in Hyperspectral Imagery**
Yuksel S. E. , KÜÇÜK S., GADER P. D.
IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, vol.13, pp.1910-1914, 2016 (Journal Indexed in SCI)
- VI. **Multiple-Instance Hidden Markov Models With Applications to Landmine Detection**
Yuksel S. E. , Bolton J., Gader P.
IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, vol.53, pp.6766-6775, 2015 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Effect of LiDAR sensor on the success of shadow detection from hyperspectral data**
YÜKSEL ERDEM S. E. , Boyaci M.
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK BILIMLERI DERGISI, vol.24, pp.198-204, 2018 (Journal Indexed in ESCI)

Refereed Congress / Symposium Publications in Proceedings

- I. **A Standalone Open-Source System for Optical Inspection of Printed Circuit Boards**
ÜLGER F., Yuksel S. E.
23rd IEEE Conference on Signal Processing Algorithms, Architectures, Arrangements, and Applications (SPA), Poznan, Poland, 18 - 20 September 2019, pp.105-110
- II. **Deep Canonical Correlation Analysis for Hyperspectral Image Classification**
TOKER K. G. , Yuksel S. E.
Conference on Remote Sensing of the Ocean, Sea Ice, Coastal Waters, and Large Water Regions held at SPIE Remote Sensing Conference, Strasbourg, France, 9 - 10 September 2019, vol.11150
- III. **Transfer Learning on GPR Data for IED Detection in Various Environments**
Yuksel S. E. , Oturak M., TOKER K. G.
Conference on Electro-Optical Remote Sensing XIII, Strasbourg, France, 9 - 10 September 2019, vol.11160
- IV. **Transfer and Multitask Learning using Convolutional Neural Networks for Buried Wire Detection**

from Ground Penetrating Radar Data

Aydin E., YÜKSEL ERDEM S. E.

Conference on Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XXIV, Maryland, United States Of America, 15 - 17 April 2019, vol.11012

- V. **Transfer and Multitask Learning Method for Buried Wire Detection via GPR**
Aydin E., Yuksel S. E.
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- VI. **Fusion of Hyperspectral Image and LiDAR Data and Classification using Deep Convolutional Neural Networks**
Salman M., Yuksel S. E.
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- VII. **A Greedy Algorithm for Sparse Unmixing**
TOKER K. G. , Yuksel S. E.
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- VIII. **IMAGE FUSION FOR HYPERSPECTRAL IMAGE SUPER-RESOLUTION**
Irmak H., AKAR G., Yuksel S. E.
9th Workshop on Hyperspectral Image and Signal Processing - Evolution in Remote Sensing (WHISPERS), Amsterdam, Netherlands, 23 - 26 September 2018
- IX. **LiDAR Aided Hyperspectral Images Segmentation Using Schroedinger Eigenmaps**
Torun O., YÜKSEL ERDEM S. E.
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- X. **Buried Target Detection with Ground Penetrating Radar Using Deep Learning Method**
Aydin E., YÜKSEL ERDEM S. E.
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XI. **Fusion Based Resolution Enhancement in Hyperspectral Images**
Irmak H., AKAR G., YÜKSEL ERDEM S. E.
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XII. **Fusion of KLMS and Blob Based Pre-Screener for Buried Landmine Detection Using Ground Penetrating Radar**
Baydar B., AKAR G., YÜKSEL ERDEM S. E. , Ozturk S.
Conference on Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XXI, Maryland, United States Of America, 18 - 21 April 2016, vol.9823
- XIII. **SEMATIC SEGMENTATION OF HYPERSPECTRAL IMAGES WITH THE FUSION OF LIDAR DATA**
Aytaylan H., YÜKSEL ERDEM S. E.
36th IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Beijing, China, 10 - 15 July 2016, pp.2522-2525
- XIV. **Hyperspectral Image Segmentation Using Normalized Cuts**
Torun O., YÜKSEL ERDEM S. E.
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1717-1720
- XV. **Hyperspectral Imagery Superresolution**
Irmak H., AKAR G., YÜKSEL ERDEM S. E.
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1057-1060
- XVI. **SUPER-RESOLUTION RECONSTRUCTION OF HYPERSPECTRAL IMAGES VIA AN IMPROVED MAP-BASED APPROACH**
Irmak H., AKAR G., YÜKSEL ERDEM S. E. , Aytaylan H.
36th IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Beijing, China, 10 - 15 July 2016, pp.7244-7247
- XVII. **Hyperspectral Data Classification using Deep Convolutional Neural Networks**
Salman M., YÜKSEL ERDEM S. E.

- 24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.2129-2132
- XVIII. **Target Detection in Hyperspectral Images**
Karakaya A., YÜKSEL ERDEM S. E.
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1501-1504
- XIX. **Analyzing the Correlation of Sky-View Factor and Shadow Regions in Hyperspectral Data**
Oduncu E., YÜKSEL ERDEM S. E.
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1989-1992
- XX. **Accelerating Classification Time in Hyperspectral Images**
TOKER K. G. , YÜKSEL ERDEM S. E.
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.2126-2129
- XXI. **Effect of endmember clustering on proportion estimation: Results on the Share 2012 dataset**
Gunes E., YÜKSEL ERDEM S. E.
Conference on Algorithms and Technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery XXI, Maryland, United States Of America, 21 - 23 April 2015, vol.9472
- XXII. **LWIR and MWIR Images Dimension Reduction and Anomaly Detection with Locally Linear Embedding**
Aydogdu A. S. , Hatipoglu P. U. , Ozparlak L., YÜKSEL ERDEM S. E.
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.819-822
- XXIII. **COMPARISON OF RX-BASED ANOMALY DETECTORS ON SYNTHETIC AND REAL HYPERSPECTRAL DATA**
KÜÇÜK S., YÜKSEL ERDEM S. E.
7th Workshop on Hyperspectral Image and Signal Processing - Evolution in Remote Sensing (WHISPERS), Tokyo, Japan, 2 - 05 June 2015
- XXIV. **A MAP-BASED APPROACH TO RESOLUTION ENHANCEMENT OF HYPERSPECTRAL IMAGES**
Irmak H., AKAR G., YÜKSEL ERDEM S. E.
7th Workshop on Hyperspectral Image and Signal Processing - Evolution in Remote Sensing (WHISPERS), Tokyo, Japan, 2 - 05 June 2015
- XXV. **Locating the Shadow Regions in LiDAR Data: Results on the SHARE 2012 Dataset**
Boyaci M., YÜKSEL ERDEM S. E.
Conference on Algorithms and Technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery XXI, Maryland, United States Of America, 21 - 23 April 2015, vol.9472
- XXVI. **Fusion of forward-looking infrared camera and down-looking ground penetrating radar for buried target detection**
YÜKSEL ERDEM S. E. , AKAR G., Ozturk S.
Conference on Detection and Sensing of Mines, Explosive Objects, and Obscured Targets XX, Maryland, United States Of America, 20 - 23 April 2015, vol.9454
- XXVII. **Aircraft Recognition from Satellite Images**
Oturak M., YÜKSEL ERDEM S. E.
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.719-722
- XXVIII. **Endmember Detection using Enhanced Constrained Optimization in Hyperspectral Imaging**
YÜKSEL ERDEM S. E.
22nd IEEE Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, 23 - 25 April 2014, pp.1023-1026

Supported Projects

YÜKSEL ERDEM S. E. , TUBITAK Project, Hiperspektral Görüntüler ile LiDAR Verilerinin Kaynaştırılması, 2015 - Continues
MUTLU A., LİVANELİOĞLU A., KARADUMAN A. A. , ALKAN H., TOPRAK E. O. , BİTİRGEN O. B. , YEKEBAĞCI İ. B. , ARSLAN
C., YÜKSEL S. E. , YARDIMCI B. N. , Project Supported by Higher Education Institutions, SEREBRAL PALSİLİ ÇOCUKLARDA
SANAL GERÇEKLİK SİSTEMİNİN GERÇEKLEŞTİRİLMESİ, 2017 - 2018

YÜKSEL ERDEM S. E. , Project Supported by Higher Education Institutions, ICCV2017 Katılım ve Bilgisayarlı Görüde Son
Gelişmeler, 2017 - 2017

YÜKSEL ERDEM S. E. , Other Supported Projects, Algorithm Development for a Hyperspectral Camera, 2017 - 2017

YÜKSEL ERDEM S. E. , Project Supported by Higher Education Institutions, ICCV 2015 Konferansına Yayına Bağlı Katılım
ve Bilgisayarlı Görü Alanında Yeni Araştırmaların Takibi, 2015 - 2016

YÜKSEL ERDEM S. E. , Project Supported by Higher Education Institutions, Eurasia Graphics 2015 Konferansına Katılım
ve Bilgisayarlı Görüde Yenilikçi Teknolojilerin Araştırılması, 2015 - 2016

YÜKSEL ERDEM S. E. , KÜÇÜK S., AKAR G., IRMAK H., Project Supported by Higher Education Institutions, Yapay ve gerçek
hiperspektral veriler üzerinde RXTabanlı anomali bulucuların karşılaştırılması, 2015 - 2015

Citations

Total Citations (WOS):54

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