

Prof.Dr. CEM ÜNSALAN

Kişisel Bilgiler

İş Telefonu: [+90 216 777 3665](tel:+902167773665)

E-posta: cem.unsalan@marmara.edu.tr

Web: <https://avesis.marmara.edu.tr/cem.unsalan>

Posta Adresi: Prof. Dr. Cem Ünsalan Marmara Üniversitesi Mühendislik Fakültesi RTE Külliyesi M4 Binası 2. Kat 209 Numara
Aydınevler, 34854 Maltepe/İstanbul

Uluslararası Araştırmacı ID'leri

ScholarID: TkrvPEoAAAAJ

ORCID: 0000-0002-8904-3730

Publons / Web Of Science ResearcherID: A-7249-2018

ScopusID: 6603022311

Yoksis Araştırmacı ID: 12337

Biyografi

Cem Ünsalan is a full professor at the Department of Electrical and Electronics Engineering at Marmara University, Turkey since 2017. Prior to joining Marmara University, he worked the Department of Electrical and Electronics Engineering at Yeditepe University for 14 years as a faculty member. He also served as the department head for four years there. Dr. Ünsalan received his BSc degree (1995) from Hacettepe University, Turkey; his MSc degree from Bogazici University, Turkey (1998); and PhD degree (2003) from The Ohio State University, USA.

Dr. Ünsalan has published four books on microcontrollers and FPGA systems. The three microcontroller books are on Texas Instruments MSP430 and MSP432 microcontrollers, and Arm Cortex M architecture. The FPGA book is on Xilinx's Artix7 FPGA chip. All these books aim to introduce basic embedded system concepts through practical applications. He has also published books on computer vision and image understanding.

Eğitim Bilgileri

Doktora, Ohio State University, Elektrik Müh., Amerika Birleşik Devletleri 1999 - 2003

Yüksek Lisans, Boğaziçi Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (YI) (Tezli), Türkiye 1995 - 1998

Lisans, Hacettepe Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Türkiye 1991 - 1995

Yaptığı Tezler

Doktora, Multispectral Satellite Image Understanding, Ohio State University, Elektrik Müh., 2003

Yüksek Lisans, Pattern recognition methods for texture analysis, case study: Steel surfaces, Boğaziçi Üniversitesi, Fen Bilimleri Enstitüsü, 1998

Araştırma Alanları

Elektrik-Elektronik Mühendisliği

Akademik Unvanlar / Görevler

Prof.Dr., Marmara Üniversitesi, Mühendislik Fakültesi, Elektrik ve Elektronik Mühendisliği Bölümü, 2017 - Devam Ediyor
Prof.Dr., Yeditepe Üniversitesi, Mühendislik-Mimarlık Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2013 - 2017
Doç.Dr., Yeditepe Üniversitesi, Mühendislik-Mimarlık Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2008 - 2013
Yrd.Doç.Dr., Yeditepe Üniversitesi, Mühendislik-Mimarlık Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2003 - 2008
Okutman, The Ohio State University, Mühendislik Fakültesi, Elektrik Mühendisliği, 1999 - 2003
Araştırma Görevlisi, Boğaziçi Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 1996 - 1998

Akademik İdari Deneyim

Marmara Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2017 - Devam Ediyor
Yeditepe Üniversitesi, Mühendislik-Mimarlık Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2013 - 2017

Yönetilen Tezler

ÜNSALAN C., EMBEDDED SYSTEM DESIGN TO DETECT OBJECTS IN UAV IMAGES, Doktora, B.DENİZER(Öğrenci), 2019
ÜNSALAN C., MAŞAZADE E., Real-time system for bird sound recognition, Yüksek Lisans, O.KÜÇÜKTOPCU(Öğrenci), 2017
ÜNSALAN C., 3D object detection and representation in remote sensing: Probabilistic methods and applications, Doktora, A.HİMMET(Öğrenci), 2017
ÜNSALAN C., Configurable hardware based genome aligner, Doktora, M.YAĞMUR(Öğrenci), 2016
ÜNSALAN C., Real time indoor environment modeling, Yüksek Lisans, D.BEKER(Öğrenci), 2014
ÜNSALAN C., Automated tolerance inspection of free form objects, Yüksek Lisans, M.ÇAĞKAN(Öğrenci), 2012
ÜNSALAN C., Two dimensional change detection methods for satellite images, Yüksek Lisans, M.İLSEVER(Öğrenci), 2012
ÜNSALAN C., Human identification and tracking, Yüksek Lisans, M.YÜCE(Öğrenci), 2011
ÜNSALAN C., Gait analysis and its implemantation, Yüksek Lisans, S.GÜVENİLİR(Öğrenci), 2011
ÜNSALAN C., Designing a range scanner on an embedded processor using color coded structured light, Doktora, R.BENVENİSTE(Öğrenci), 2011
ÜNSALAN C., A video surveillance system based on interacting multiple models, Yüksek Lisans, C.SARITAŞ(Öğrenci), 2010
ÜNSALAN C., Object detection in aerial and satellite images, Doktora, B.SIRMAÇEK(Öğrenci), 2009
ÜNSALAN C., 3D scanner implementation for shiny surfaces using color invariants, Yüksek Lisans, R.BENVENİSTE(Öğrenci), 2007
ÜNSALAN C., Registering range images and segmenting 3d object models, Yüksek Lisans, O.SERTEL(Öğrenci), 2006

Jüri Üyelikleri

Akademik Kadroya Atama-Yardımcı Doçentlik, Akademik Kadroya Atama, Marmara Üniversitesi, Temmuz, 2019
Doçentlik Sınavı, Doçentlik Sınavı, Dicle Üniversitesi, Haziran, 2019
Doçentlik Sınavı, Doçentlik Sınavı, Karadeniz Teknik Üniversitesi, Nisan, 2019

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **Planogram compliance control via object detection, sequence alignment, and focused iterative search**
YÜCEL M., ÜNSALAN C.
Multimedia Tools and Applications, cilt.83, sa.8, ss.24815-24839, 2024 (SCI-Expanded)
- II. **Implementation and Applications of a Ternary Threshold Logic Gate**
UNUTULMAZ A., ÜNSALAN C.

- Circuits, Systems, and Signal Processing, cilt.43, sa.2, ss.1192-1207, 2024 (SCI-Expanded)
- III. **Land classification in satellite images by injecting traditional features to CNN models**
Aksoy M. Ç., Sirmacek B., ÜNSALAN C.
Remote Sensing Letters, cilt.14, sa.2, ss.157-167, 2023 (SCI-Expanded)
- IV. **Shelf control in retail stores via ultra-low and low power microcontrollers**
Yucel M. E., ÜNSALAN C.
JOURNAL OF REAL-TIME IMAGE PROCESSING, cilt.19, sa.4, ss.751-762, 2022 (SCI-Expanded)
- V. **Probabilistic object tracking by low power microcontrollers**
Buyukesmeli H., Maşazade E., Ünsalan C.
JOURNAL OF REAL-TIME IMAGE PROCESSING, cilt.18, ss.2539-2550, 2021 (SCI-Expanded)
- VI. **Determining and evaluating new store locations using remote sensing and machine learning**
Hoke B., Turgay Z., ÜNSALAN C., Kucukaydin H.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, cilt.29, sa.3, ss.1509-1524, 2021 (SCI-Expanded)
- VII. **Probabilistic object detection and shape extraction in remote sensing data**
Ozcan A. H., ÜNSALAN C.
COMPUTER VISION AND IMAGE UNDERSTANDING, cilt.195, 2020 (SCI-Expanded)
- VIII. **A real-time bird sound recognition system using a low-cost microcontroller**
Kucuktopcu O., Maşazade E., Ünsalan C., Varshney P. K.
APPLIED ACOUSTICS, cilt.148, ss.194-201, 2019 (SCI-Expanded)
- IX. **Highly accurate and sensitive short read aligner**
Gok M. Y., GÖREN UĞURDAĞ S., ÜNSALAN C., Sagioglu M. S.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, cilt.26, sa.2, ss.721-731, 2018 (SCI-Expanded)
- X. **Ground filtering and DTM generation from DSM data using probabilistic voting and segmentation**
Ozcan A. H., ÜNSALAN C., Reinartz P.
INTERNATIONAL JOURNAL OF REMOTE SENSING, cilt.39, sa.9, ss.2860-2883, 2018 (SCI-Expanded)
- XI. **Tree crown detection and delineation in satellite images using probabilistic voting**
Ozcan A. H., Hisar D., Sayar Y., Unsalan C.
REMOTE SENSING LETTERS, cilt.8, sa.8, ss.761-770, 2017 (SCI-Expanded)
- XII. **LiDAR Data Filtering and DTM Generation Using Empirical Mode Decomposition**
Ozcan A. H., Unsalan C.
IEEE JOURNAL OF SELECTED TOPICS IN APPLIED EARTH OBSERVATIONS AND REMOTE SENSING, cilt.10, sa.1, ss.360-371, 2017 (SCI-Expanded)
- XIII. **Nary coded structured light-based range scanners using color invariants**
Benveniste R., Unsalan C.
JOURNAL OF REAL-TIME IMAGE PROCESSING, cilt.9, sa.2, ss.359-377, 2014 (SCI-Expanded)
- XIV. **Low-cost prioritization of image blocks in wireless sensor networks for border dsurveillance**
Irgan K., Unsalan C., Baydere S.
JOURNAL OF NETWORK AND COMPUTER APPLICATIONS, cilt.38, ss.54-64, 2014 (SCI-Expanded)
- XV. **Road Network Detection Using Probabilistic and Graph Theoretical Methods**
ÜNSALAN C., Sirmacek B.
IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, cilt.50, sa.11, ss.4441-4453, 2012 (SCI-Expanded)
- XVI. **Hands-on DSP education through experiments**
Benveniste R., Unsalan C.
INTERNATIONAL JOURNAL OF ELECTRICAL ENGINEERING EDUCATION, cilt.49, sa.3, ss.302-309, 2012 (SCI-Expanded)
- XVII. **A Color Invariant for Line Stripe-Based Range Scanners**
Benveniste R., Unsalan C.
COMPUTER JOURNAL, cilt.54, sa.5, ss.738-753, 2011 (SCI-Expanded)
- XVIII. **Multi spectral Satellite Image Understanding From Land Classification to Building and Road**

Detection Final Comments

ÜNSALAN C., Boyer K. L.

MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.179-182, 2011 (SCI-Expanded)

XIX. Review on Land Use Classification

ÜNSALAN C., Boyer K. L.

MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.49-64, 2011 (SCI-Expanded)

XX. Remote Sensing Satellites and Airborne Sensors

ÜNSALAN C., Boyer K. L.

MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.7-15, 2011 (SCI-Expanded)

XXI. Detecting Residential Regions by Graph-Theoretical Measures

ÜNSALAN C., Boyer K. L.

MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.131-136, 2011 (SCI-Expanded)

XXII. Review on Building and Road Detection

ÜNSALAN C., Boyer K. L.

MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.139-144, 2011 (SCI-Expanded)

XXIII. Graph Theoretical Measures for Land Development

ÜNSALAN C., Boyer K. L.

MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.99-120, 2011 (SCI-Expanded)

XXIV. Feature Based Grouping to Detect Suburbia

ÜNSALAN C., Boyer K. L.

MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.123-129, 2011 (SCI-Expanded)

XXV. Linearized Shadow and Water Indices

ÜNSALAN C., Boyer K. L.

MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.41-46, 2011 (SCI-Expanded)

XXVI. Land Use Classification using Structural Features

ÜNSALAN C., Boyer K. L.

MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.65-81, 2011 (SCI-Expanded)

XXVII. House and Street Network Detection in Residential Regions

ÜNSALAN C., Boyer K. L.

MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.145-176, 2011 (SCI-Expanded)

XXVIII. A Probabilistic Framework to Detect Buildings in Aerial and Satellite Images

Sirmacek B., Unsalan C.

IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, cilt.49, sa.1, ss.211-221, 2011 (SCI-Expanded)

XXIX. Land Use Classification via Multispectral Information

ÜNSALAN C., Boyer K. L.

MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.83-98, 2011 (SCI-Expanded)

XXX. Linearized Vegetation Indices

ÜNSALAN C., Boyer K. L.

MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.19-39, 2011 (SCI-Expanded)

- XXXI. **Multispectral Satellite Image Understanding From Land Classification to Building and Road Detection**
Introduction
ÜNSALAN C., Boyer K. L.
MULTISPECTRAL SATELLITE IMAGE UNDERSTANDING: FROM LAND CLASSIFICATION TO BUILDING AND ROAD DETECTION, ss.1-4, 2011 (SCI-Expanded)
- XXXII. **Using local features to measure land development in urban regions**
Sirmacek B., Unsalan C.
PATTERN RECOGNITION LETTERS, cilt.31, sa.10, ss.1155-1159, 2010 (SCI-Expanded)
- XXXIII. **Urban Area Detection Using Local Feature Points and Spatial Voting**
Sirmacek B., Unsalan C.
IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, cilt.7, sa.1, ss.146-150, 2010 (SCI-Expanded)
- XXXIV. **Urban-Area and Building Detection Using SIFT Keypoints and Graph Theory**
ÜNSALAN C.
Ieee Transactions On Geoscience And Remote Sensing, cilt.47, ss.1156-1167, 2009 (SCI-Expanded)
- XXXV. **Statistical, Structural, Hybrid, and Graph Theoretical Features to Measure Land Development**
ÜNSALAN C.
Ieee Geoscience And Remote Sensing Letters, cilt.6, ss.72-76, 2009 (SCI-Expanded)
- XXXVI. **Measuring Land Development in Urban Regions Using Graph Theoretical and Conditional Statistical Features**
ÜNSALAN C.
Ieee Transactions On Geoscience And Remote Sensing, cilt.45, ss.3989-3999, 2007 (SCI-Expanded)
- XXXVII. **A model based approach for pose estimation and rotation invariant object matching**
ÜNSALAN C.
PATTERN RECOGNITION LETTERS, cilt.28, sa.1, ss.49-57, 2007 (SCI-Expanded)
- XXXVIII. **Gradient-Magnitude-Based Support Regions in Structural Land Use Classification**
ÜNSALAN C.
IEEE Geoscience And Remote Sensing Letters, cilt.3, ss.546-550, 2006 (SCI-Expanded)
- XXXIX. **Range image registration with edge detection in spherical coordinates**
Sertel O., Unsalan C.
MULTIMEDIA CONTENT REPRESENTATION, CLASSIFICATION AND SECURITY, cilt.4105, ss.745-752, 2006 (SCI-Expanded)
- XL. **A system to detect houses and residential street networks in multispectral satellite images**
ÜNSALAN C., Boyer K.
COMPUTER VISION AND IMAGE UNDERSTANDING, cilt.98, sa.3, ss.423-461, 2005 (SCI-Expanded)
- XLI. **A theoretical and experimental investigation of graph theoretical measures for land development in satellite imagery**
ÜNSALAN C., Boyer K.
IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE, cilt.27, sa.4, ss.575-589, 2005 (SCI-Expanded)
- XLII. **Classifying land development in high-resolution satellite imagery using hybrid structural-multispectral features**
ÜNSALAN C., Boyer K.
IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, cilt.42, sa.12, ss.2840-2850, 2004 (SCI-Expanded)
- XLIII. **Linearized vegetation indices based on a formal statistical framework**
ÜNSALAN C., Boyer K.
IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, cilt.42, sa.7, ss.1575-1585, 2004 (SCI-Expanded)
- XLIV. **Classifying, land development in high-resolution panchromatic satellite images using straight-line statistics**
ÜNSALAN C.
IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, cilt.42, ss.907-919, 2004 (SCI-Expanded)
- XLV. **Conversions between parametric and implicit forms using polar/spherical coordinate**

representations

ÜNSALAN C., Ercil A.

COMPUTER VISION AND IMAGE UNDERSTANDING, cilt.81, sa.1, ss.1-25, 2001 (SCI-Expanded)

Diğer Dergilerde Yayınlanan Makaleler

- I. **Classifying land development in high resolution satellite images using straight line statistics**
Ünsalan C., Boyer K. L.
Proceedings - International Conference on Pattern Recognition, cilt.16, sa.1, ss.127-130, 2002 (Scopus)
- II. **Shapes of features and a modified measure for linear discriminant analysis**
Ünsalan C., Erçil A.
Proceedings - International Conference on Pattern Recognition, cilt.15, sa.2, ss.410-413, 2000 (Scopus)

Kitap & Kitap Bölümleri

- I. **Embedded System Design with Arm Cortex-M Microcontrollers**
ÜNSALAN C., Gürhan H. D., Yücel M. E.
Springer, New York, 2022
- II. **Embedded Digital Control with Microcontrollers: Implementation with C and Python**
ÜNSALAN C., EROL BARKANA D., Gürhan H. D.
Wiley-IEEE, New York, 2021
- III. **Digital Signal Processing using Arm Cortex-M based Microcontrollers: Theory and Practice**
ÜNSALAN C., Gürhan H. D., Yücel M. E.
ARM Education Media, 2018
- IV. **Programmable Microcontrollers: Applications on the MSP432 LaunchPad**
ÜNSALAN C., Gürhan H. D., Yücel M. E.
McGraw-Hill, New-York, 2017
- V. **Digital System Design with FPGA: Implementation using Verilog and VHDL**
ÜNSALAN C., Tar B.
McGraw-Hill, New-York, 2017
- VI. **Programmable Microcontrollers with Applications MSP430 LaunchPad with CCS and Grace**
ÜNSALAN C., Gürhan H. D.
Mc-Graw Hill, New-York, 2013
- VII. **Two Dimensional Change Detection Methods: Remote Sensing Applications**
Ünsalan C.
Springer, London/Berlin , London, 2012
- VIII. **Multispectral Satellite Image Understanding: From Land Classification to Building and Road Detection**
Ünsalan C.
Springer, London/Berlin , London, 2011
- IX. **Color Coded Structured Light based Range Scanners: Designing an Embedded System**
Ünsalan C.
Lambert Academic Publishing, London, 2011
- X. **Object Detection in Satellite and Aerial Images: Remote Sensing Applications**
Ünsalan C.
VDE-Verlag GmbH, Munich, 2010
- XI. **Automatic inspection of steel structure**
ÜNSALAN C., ERÇİL F. A.
Recent Advances in Mechatronics, Kaynak, Okyay, Editör, Springer-Verlag Ltd., Singapore, ss.468-480, 1999

Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

- I. **ForestMap: Mapping Forest Attributes Across the Globe - First Case Study**
Fransson J. E., Sertel E., ÜNSALAN C., Salo J., Holmstrom A., Wallerman J., Nilsson M.
2023 IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2023, California, Amerika Birleşik Devletleri, 16 - 21 Temmuz 2023, cilt.2023-July, ss.3395-3397
- II. **Forest Biophysical Parameter Estimation via Machine Learning and Neural Network Approaches**
Aksoy S., Hasan Al Shwayyat S. Z., Nur Topgul S., Sertel E., ÜNSALAN C., Salo J., Holmstrom A., Wallerman J., Nilsson M., Fransson J. E.
2023 IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2023, California, Amerika Birleşik Devletleri, 16 - 21 Temmuz 2023, cilt.2023-July, ss.2661-2664
- III. **Smart Trap Design with Machine Learning and Embedded System Structure Makine Öğrenmesi ve Gömülü Sistem Yapisi ile Akıllı Tuzak Tasarımı**
Atmaca E., Hoke B., ÜNSALAN C.
30th Signal Processing and Communications Applications Conference, SIU 2022, Safranbolu, Türkiye, 15 - 18 Mayıs 2022
- IV. **RLSNAKE: A HYBRID REINFORCEMENT LEARNING APPROACH FOR ROAD DETECTION**
Botteghi N., Sırmaçek B., ÜNSALAN C.
The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences, Göttingen, Almanya, 28 - 30 Haziran 2021
- V. **Voting based tree detection from satellite images Uydu Imgelerinde Oylama Tabanlı Ağaç Tespiti**
Özcan A. H., Sayar Y., Hisar D., Ünsalan C.
24th Signal Processing and Communication Application Conference, SIU 2016, Zonguldak, Türkiye, 16 - 19 Mayıs 2016, ss.453-456
- VI. **Building detection with spatial voting and morphology based segmentation Oylama ve Morfolojik Bölütleme ile Bina Tespiti**
Özcan A. H., Ünsalan C.
24th Signal Processing and Communication Application Conference, SIU 2016, Zonguldak, Türkiye, 16 - 19 Mayıs 2016, ss.429-432
- VII. **Multiscale tree analysis from satellite images**
Ozcan A. H., Sayar Y., Hisar D., Unsalan C.
7th International Conference on Recent Advances in Space Technologies, RAST 2015, İstanbul, Türkiye, 16 - 19 Haziran 2015, ss.265-269
- VIII. **Sparse people group and crowd detection using spatial point statistics in airborne images**
Ozcan A. H., Unsalan C., Reinartz P.
7th International Conference on Recent Advances in Space Technologies, RAST 2015, İstanbul, Türkiye, 16 - 19 Haziran 2015, ss.307-310
- IX. **Using empirical mode decomposition for ground filtering**
Ozcan A. H., Unsalan C.
7th International Conference on Recent Advances in Space Technologies, RAST 2015, İstanbul, Türkiye, 16 - 19 Haziran 2015, ss.317-321
- X. **Detecting inshore ships in satellite images Uydu Görüntülerinden Kiyidaki Gemi Tespiti**
Ozcan A. H., Unsalan C.
2015 23rd Signal Processing and Communications Applications Conference, SIU 2015, Malatya, Türkiye, 16 - 19 Mayıs 2015, ss.1220-1223
- XI. **LiDAR height data filtering using Empirical Mode Decomposition Görgül Kip Ayırışımı ile LiDAR Yükseklik Verisi Filtreleme**
Özcan A. H., Ünsalan C.
2015 23rd Signal Processing and Communications Applications Conference, SIU 2015, Malatya, Türkiye, 16 - 19 Mayıs 2015, ss.1224-1227
- XII. **Crowd detection in airborne images using spatial point statistics**

Özcan A. H., Ünsalan C., Reinartz P.

2015 23rd Signal Processing and Communications Applications Conference, SIU 2015, Malatya, Türkiye, 16 - 19 Mayıs 2015, ss.419-422

XIII. A probabilistic approach to building change detection

Özcan A. H., Ünsalan C., Reinartz P.

2014 22nd Signal Processing and Communications Applications Conference, SIU 2014, Trabzon, Türkiye, 23 - 25 Nisan 2014, ss.489-492

XIV. A systematic approach for building change detection using multi-source data

Özcan A. H., Ünsalan C., Reinartz P.

2014 22nd Signal Processing and Communications Applications Conference, SIU 2014, Trabzon, Türkiye, 23 - 25 Nisan 2014, ss.477-480

XV. Building detection using HOG descriptors

Ilsever M., Ünsalan C.

6th International Conference on Recent Advances in Space Technologies, RAST 2013, İstanbul, Türkiye, 12 - 14 Haziran 2013, ss.115-119

XVI. Locating the urban area in satellite images to detect changes in them

Ilsever M., Ünsalan C.

6th International Conference on Recent Advances in Space Technologies, RAST 2013, İstanbul, Türkiye, 12 - 14 Haziran 2013, ss.109-114

XVII. Building detection using local features and DSM data

Ozcan A. H., Ünsalan C., Reinartz P.

6th International Conference on Recent Advances in Space Technologies, RAST 2013, İstanbul, Türkiye, 12 - 14 Haziran 2013, ss.139-143

XVIII. Reconfigurable hardware-based genome aligner using quality scores Yeniden yapılandırılabilir donanım tabanlı kalite değerlerini kullanan genom hizalayıcı

Yagmur Gök M., Sagirolu M. Ş., Ünsalan C., Gören S.

2013 21st Signal Processing and Communications Applications Conference, SIU 2013, Haspolat, Türkiye, 24 - 26 Nisan 2013

XIX. Programmable Hardware based Short Read Aligner Using Phred Quality Scores

Gök M. Y., Sagirolu M. S., ÜNSALAN C., Goren S.

ASE/IEEE International Conference on Social Computing (SocialCom), Washington, Kiribati, 8 - 14 Eylül 2013, ss.864-867

XX. Reconfigurable Hardware-based Genome Aligner Using Quality Scores

Gök M. Y., Sagirolu M. S., ÜNSALAN C., Goren S.

21st Signal Processing and Communications Applications Conference (SIU), CYPRUS, 24 - 26 Nisan 2013

XXI. Performance assessment of automatic crowd detection techniques on airborne images

Sirmacek B., Lichtenauer J., Ünsalan C., Reinartz P.

2012 32nd IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2012, Munich, Almanya, 22 - 27 Temmuz 2012, ss.2198-2201

XXII. Graph matching based change detection in satellite images

Ilsever M., Ünsalan C.

2012 32nd IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2012, Munich, Almanya, 22 - 27 Temmuz 2012, ss.6213-6215

XXIII. Pixel based change detection using an ensemble of fuzzy and binary logic operations

Ilsever M., Altunkaya U., Ünsalan C.

2012 32nd IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2012, Munich, Almanya, 22 - 27 Temmuz 2012, ss.6185-6187

XXIV. Using structural features to detect buildings in panchromatic satellite and aerial images

Sirmacek B., Ünsalan C.

5th International Conference on Recent Advances in Space Technologies, RAST 2011, İstanbul, Türkiye, 9 - 11 Haziran 2011, ss.107-111

- XXV. **Road detection from remotely sensed images using color features**
Sirmacek B., Ünsalan C.
5th International Conference on Recent Advances in Space Technologies, RAST 2011, İstanbul, Türkiye, 9 - 11 Haziran 2011, ss.112-115
- XXVI. **Urban area detection from remotely sensed images using combination of local features**
Sirmacek B., Ünsalan C.
5th International Conference on Recent Advances in Space Technologies, RAST 2011, İstanbul, Türkiye, 9 - 11 Haziran 2011, ss.188-192
- XXVII. **Single stripe projection based range scanner implementation on TI DaVinCi DM6437 EVM**
Benveniste R., Ünsalan C.
4th European DSP Education and Research Conference, EDERC 2010, Nice, Fransa, 1 - 02 Aralık 2010, ss.231-235
- XXVIII. **A binary coded structured light system to scan shiny surfaces Parlak yüzeyleri taramak için ikili kodlama temelli bir sistem**
Benveniste R., Ünsalan C.
18th IEEE Signal Processing and Communications Applications Conference, SIU 2010, Diyarbakır, Türkiye, 22 - 24 Nisan 2010, ss.292-295
- XXIX. **A color invariant based binary coded structured light range scanner for shiny objects**
Benveniste R., Ünsalan C.
2010 20th International Conference on Pattern Recognition, ICPR 2010, İstanbul, Türkiye, 23 - 26 Ağustos 2010, ss.798-801
- XXX. **Road network extraction using edge detection and spatial voting**
Sirmaçek B., Ünsalan C.
2010 20th International Conference on Pattern Recognition, ICPR 2010, İstanbul, Türkiye, 23 - 26 Ağustos 2010, ss.3113-3116
- XXXI. **Binary and ternary coded structured light 3D scanner for shiny objects**
Benveniste R., Ünsalan C.
25th International Symposium on Computer and Information Sciences, ISCIS 2010, London, Birleşik Krallık, 22 - 24 Eylül 2010, ss.241-244
- XXXII. **Detection of kidney stones from X-ray images X-işini imgelerinden böbrek taşının bulunması**
Altıntaş A., Ünsalan C., Keskin A. Ü., Yencilek F.
2010 15th National Biomedical Engineering Meeting, BIYOMUT2010, Antalya, Türkiye, 21 - 24 Nisan 2010
- XXXIII. **Single stripe projection based range scanning of shiny objects under ambient light**
Benveniste R., Ünsalan C.
2009 24th International Symposium on Computer and Information Sciences, ISCIS 2009, Guzelyurt, Kıbrıs (Gkry), 14 - 16 Eylül 2009, ss.1-6
- XXXIV. **Building detection using local gabor features in very high resolution satellite images**
Sirmaçek B., Ünsalan C.
4th International Conference on Recent Advances in Space Technologies 2009, RAST '09, İstanbul, Türkiye, 11 - 13 Haziran 2009, ss.283-286
- XXXV. **Damaged building detection in aerial images using shadow information**
Sirmaçek B., Ünsalan C.
4th International Conference on Recent Advances in Space Technologies 2009, RAST '09, İstanbul, Türkiye, 11 - 13 Haziran 2009, ss.249-252
- XXXVI. **Urban area detection using gabor features and spatial voting Gabor öz nitelikleri ve uzamsal oylama ile yerleşim bölgelerinin bulunması**
Sirmaçek B., Ünsalan C.
2009 IEEE 17th Signal Processing and Communications Applications Conference, SIU 2009, Antalya, Türkiye, 9 - 11 Nisan 2009, ss.812-815
- XXXVII. **Urban Area Detection Using Gabor Features and Spatial Voting**
Sirmacek B., ÜNSALAN C.
IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Türkiye, 9 - 11 Nisan 2009,

ss.101-104

- XXXVIII. **Building detection from aerial images using invariant color features and shadow information**
Sirmaçek B., Ünsalan C.
2008 23rd International Symposium on Computer and Information Sciences, ISCIS 2008, İstanbul, Türkiye, 27 - 29 Ekim 2008
- XXXIX. **Detecting residential regions in satellite images using local features and graph matching Yerel öznitelikler ve graf eşleştirme ile uydu görüntülerinde yerleşim bölgelerinin bulunması**
Sirmaçek B., Ünsalan C.
2008 IEEE 16th Signal Processing, Communication and Applications Conference, SIU, Aydın, Türkiye, 20 - 22 Nisan 2008
- XL. **Detecting Residential Regions in Satellite Images using Local Features and Graph Matching**
Sirmacek B., Uensalan C.
IEEE 16th Signal Processing and Communications Applications Conference, Aydın, Türkiye, 20 - 22 Nisan 2008, ss.96-99
- XLI. **Measuring land development in Urban regions using graph theoretical features**
Ünsalan C.
3rd International Conference on Recent Advances in Space Technologies, RAST 2007, İstanbul, Türkiye, 14 - 16 Haziran 2007, ss.279-284
- XLII. **Detecting changes in multispectral satellite images using time dependent angle vegetation indices**
Ünsalan C.
3rd International Conference on Recent Advances in Space Technologies, RAST 2007, İstanbul, Türkiye, 14 - 16 Haziran 2007, ss.345-348
- XLIII. **Using color indices to overcome the scattering problem in line laser scanners Çizgi lazer tarama sistemlerinde parlama probleminin çözümü için renk indislerinin kullanımı**
Benveniste R., Ünsalan C.
2006 IEEE 14th Signal Processing and Communications Applications, Antalya, Türkiye, 17 - 19 Nisan 2006, cilt.2006
- XLIV. **Change detection in high resolution satellite imagery using graph theoretical features Yüksek çözünürlüklü uydu görüntülerinden graf teorisine dayanan öznitelikler ile değişimlerin bulunması**
Ünsalan C.
2006 IEEE 14th Signal Processing and Communications Applications, Antalya, Türkiye, 17 - 19 Nisan 2006, cilt.2006
- XLV. **Using color indices to overcome the scattering problem in line laser scanners**
Benveniste R., ÜNSALAN C.
IEEE 14th Signal Processing and Communications Applications, Antalya, Türkiye, 16 - 19 Nisan 2006, ss.441-442
- XLVI. **Segmenting free-form 3D objects by a function representation in spherical coordinates**
Sertel O., Ünsalan G.
ISCIS 2006: 21th International Symposium on Computer and Information Sciences, İstanbul, Türkiye, 1 - 03 Kasım 2006, ss.343-352
- XLVII. **Change detection in high resolution satellite imagery using graph theoretical features**
ÜNSALAN C.
IEEE 14th Signal Processing and Communications Applications, Antalya, Türkiye, 16 - 19 Nisan 2006, ss.81-84
- XLVIII. **Range image registration with edge detection in spherical coordinates**
Sertel O., Ünsalan C.
International Workshop on Multimedia Content Representation, Classification and Security, MRCS 2006, İstanbul, Türkiye, 11 - 13 Eylül 2006, ss.745-752
- XLIX. **A system to detect houses and residential street networks in multispectral satellite images**
Ünsalan C., Boyer K. L.
Proceedings of the 17th International Conference on Pattern Recognition, ICPR 2004, Cambridge, Birleşik Krallık, 23 - 26 Ağustos 2004, cilt.3, ss.49-52
- L. **A theoretical and experimental investigation of graph theoretical measures for land development in satellite imagery**
Ünsalan C., Boyer K. L.

Proceedings of the 17th International Conference on Pattern Recognition, ICPR 2004, Cambridge, Birleşik Krallık, 23 - 26 Ağustos 2004, cilt.2, ss.64-67

- LI. **Linearized Vegetation Indices Using a Formal Statistical Framework**
Ünsalan C., Boyer K. L.
2003 IGARSS: Learning From Earth's Shapes and Colours, Toulouse, Fransa, 21 - 25 Temmuz 2003, cilt.2, ss.982-984
- LII. **Classifying land development in high resolution satellite images using straight line statistics**
ÜNSALAN C., Boyer K.
16th International Conference on Pattern Recognition (ICPR), QUEBEC CITY, Kanada, 11 - 15 Ağustos 2002, ss.127-130
- LIII. **Shapes of features and a modified measure for linear discriminant analysis**
ÜNSALAN C., Ercil A.
15th International Conference on Pattern Recognition (ICPR-2000), Barcelona, İspanya, 3 - 07 Eylül 2000, ss.410-413

Desteklenen Projeler

- Ünsalan C., AB Destekli Diğer Projeler, ForestMap – The next generation of forest maps - adapting a Nordic success story across the globe, 2022 - 2025
- Ünsalan C., TÜBİTAK Projesi, Development of Intelligent Earthquake Vibration Sensor System, 2023 - 2024
- Ünsalan C., TÜBİTAK Projesi, Perakende Sektöründe Gömülü Sistem ile Raf Kontrolü, 2019 - 2022
- Ünsalan C., Yükseköğretim Kurumları Destekli Proje, Embedded system based probabilistic object tracking using UAV images, 2019 - 2021
- Ünsalan C., TÜBİTAK Projesi, Olasılıksal Yöntemler ile Uydu Görüntüleri ve Üç Boyut Verisinden Nesne Bulmak, 2014 - 2018
- Ünsalan C., TÜBİTAK Projesi, Aktif Hidrolik Takoza Tasarımı, 2015 - 2017
- Ünsalan C., Akgün M. A., TÜBİTAK Projesi, Designing and development of a biomechatronic reptile robot, 2014 - 2017
- Ünsalan C., Alman Uluslararası İşbirliği Kurumu (GIZ) Destekli Proje, Enhanced change detection accuracy by integrated 3 D information and remote sensing data, 2011 - 2014
- Ünsalan C., TÜBİTAK Projesi, Designing a range scanner using color coded structured light, 2009 - 2011
- Ünsalan C., Belediye, Using computer vision techniques to assign land use in satellite images, 2008 - 2009
- Ünsalan C., Erçil F. A., AB Destekli Diğer Projeler, Automatic inspection of metallic surfaces, 2006 - 2008
- Ünsalan C., TÜBİTAK Projesi, Change detection and analysis of the change on high resolution satellite imagery, 2005 - 2008
- Ünsalan C., Kurnaz I., Kalkınma Ajansı, A study of transcriptional profiling of gene expression in metastatic tumors using integrated bioinformatics approach and drug target identification, 2005 - 2008
- Ünsalan C., Belediye, Pixel based change detection using multi spectral high resolution satellite imagery, 2006 - 2007
- Ünsalan C., Boyer K., Diğer Ülkelerdeki Özel Organizasyonlar Tarafından Desteklenmiş Proje, Multi spectral spatiotemporal image understanding for change detection and analysis, 2000 - 2002
- Ünsalan C., Erçil F. A., TÜBİTAK Uluslararası İkili İşbirliği Projesi, A new implicit polynomial technology for advanced manufacturing, 1998 - 2000
- Ünsalan C., Erçil F. A., TÜBİTAK Projesi, Rotation and scale invariant object recognition and automated tolerance control, 1998 - 2000
- Ünsalan C., Erçil F. A., AB Destekli Diğer Projeler, ST JOSEPH 2000 A new generation woodworking machinery and advanced distributed system with vision technology for agile furniture factory and JIT enterprise, 1997 - 1999

Patent

- Ünsalan C., Bir yüzey tarama sistemi, Patent, BÖLÜM H Elektrik, Buluşun Tescil No: TR 2010 11109 B , Standart Tescil,

Bilimsel Danışmanlıklar

Migros, Bilimsel Projeler İçin Yapılan Danışmanlık, Marmara Üniversitesi, Mühendislik Fakültesi, Elektrik ve Elektronik Mühendisliği Bölümü, Türkiye, 2018 - 2019
Milsoft, Bilimsel Projeler İçin Yapılan Danışmanlık, Yeditepe Üniversitesi, Mühendislik-Mimarlık Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Türkiye, 2010 - 2011
Texas Instruments, Kurum veya Organizasyonlar İçin Yapılan Danışmanlık, Yeditepe Üniversitesi, Mühendislik-Mimarlık Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Türkiye, 2010 - 2010

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H-İndeks (Scopus): 17

Burslar

The Ohio State University - Honda Corporation Fellowship, Diğer Uluslararası Organizasyonlar, 2002 - 2003