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Kişisel Bilgiler

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Eğitim Bilgileri

Doktora, İstanbul Teknik Üniversitesi, Bilişim Enstitüsü, Hesaplamalı Bilim Ve Mühendislik Anabilim Dalı, Türkiye 2003 - 2011

Yüksek Lisans, İstanbul Teknik Üniversitesi, Bilişim Enstitüsü, Hesaplamalı Bilim Ve Mühendislik Anabilim Dalı, Türkiye 2001 - 2003

Lisans, İstanbul Teknik Üniversitesi, İnşaat Fakültesi, Jeodezi Ve Fotogrametri Mühendisliği Bölümü, Türkiye 1998 - 2001

Ön Lisans, Yıldız Teknik Üniversitesi, Meslek Yüksek Okulu, Harita Pr., Türkiye 1996 - 1998

Yabancı Diller

İngilizce

Yaptığı Tezler

Doktora, Support Vector Selection and Adaptation and Its Application to Earthquake Damage Assessment, İstanbul Teknik Üniversitesi, Bilişim Enstitüsü, Hesaplamalı Bilim Ve Mühendislik Anabilim Dalı, 2011

Yüksek Lisans, Fay değiştirgenlerinin belirlenmesinde gps tabanlı bir jeodezik ağ geometrisinin eniyilemesi, İstanbul Teknik Üniversitesi, Bilişim Enstitüsü, Hesaplamalı Bilim Ve Mühendislik Anabilim Dalı, 2003

Araştırma Alanları

Teknik Bilimler, Harita Mühendisliği-Geomatik, Uzaktan Algılama, Görüntü İşleme, Bilgisayar Bilimleri, Yapay Zeka, Bilgisayarda Öğrenme ve Örüntü Tanıma, Örüntü Tanıma ve Görüntü İşleme

Akademik Unvanlar / Görevler

Dr.Öğr.Üyesi, İstanbul Teknik Üniversitesi, Deprem Mühendisliği Ve Afet Yönetimi Enstitüsü, 2018 - Devam Ediyor

Yrd.Doç.Dr., İstanbul Teknik Üniversitesi, Deprem Mühendisliği Ve Afet Yönetimi Enstitüsü, 2012 - 2018

Öğretim Görevlisi Dr., İstanbul Teknik Üniversitesi, Bilgisayar Ve Bilişim Fakültesi, Bilgisayar Mühendisliği Bölümü, 2011 - 2012

Araştırma Görevlisi, İstanbul Teknik Üniversitesi, Bilişim Enstitüsü, Hesaplamalı Bilim Ve Mühendislik Anabilim Dalı, 2001

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **There Are No Data Like More Data: *Datasets for deep learning in Earth observation***
Schmitt M., Ahmadi S. A., Xu Y., Taskin G., Verma U., Sica F., Haensch R.
IEEE Geoscience and Remote Sensing Magazine, cilt.11, sa.3, ss.63-97, 2023 (SCI-Expanded)
- II. **Computer Vision for Earth Observation - The First IEEE GRSS Image Analysis and Data Fusion School [Technical Committees]**
Vivone G., Lunga D., Sica F., Taskin G., Verma U., Hansch R.
IEEE Geoscience and Remote Sensing Magazine, cilt.11, sa.2, ss.95-100, 2023 (SCI-Expanded)
- III. **Machine learning-based predictive models for equivalent damping ratio of RC shear walls**
Yaghoubi S. T., Değer Z., Taşkın Kaya G., Sütçü F.
BULLETIN OF EARTHQUAKE ENGINEERING, cilt.21, ss.293-318, 2023 (SCI-Expanded)
- IV. **A Scalable Unsupervised Feature Selection with Orthogonal Graph Representation for Hyperspectral Images**
Taskin G., Fatih Yetkin E., Camps-Valls G.
IEEE Transactions on Geoscience and Remote Sensing, cilt.61, 2023 (SCI-Expanded)
- V. **Explainable Artificial Intelligence for Cotton Yield Prediction With Multisource Data**
Çelik M. F., Işık M. S., Taşkın G., Erten E., Camps-Valls G.
IEEE Geoscience and Remote Sensing Letters, cilt.20, 2023 (SCI-Expanded)
- VI. **An earthquake damage identification approach from VHR image using mathematical morphology and machine learning**
Alatas E. O., Taşkın Kaya G.
NEURAL COMPUTING & APPLICATIONS, cilt.34, sa.21, ss.18757-18771, 2022 (SCI-Expanded)
- VII. **A novel GPR-based prediction model for cyclic backbone curves of reinforced concrete shear walls**
Değer Z., Taşkın Kaya G.
ENGINEERING STRUCTURES, cilt.255, 2022 (SCI-Expanded)
- VIII. **Extension to manifold learning methods via advanced regression methods**
Taşkın Kaya G.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, cilt.37, sa.1, ss.485-495, 2022 (SCI-Expanded)
- IX. **A Feature Selection Method via Graph Embedding and Global Sensitivity Analysis**
Taşkın Kaya G.
IEEE Geoscience and Remote Sensing Letters, cilt.19, 2022 (SCI-Expanded)
- X. **Graph Embedding via High Dimensional Model Representation for Hyperspectral Images**
Taşkın Kaya G., Camps-Valls G.
IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, cilt.60, 2022 (SCI-Expanded)
- XI. **An Adaptive Affinity Matrix Optimization for Locality Preserving Projection via Heuristic Methods for Hyperspectral Image Analysis**
Taşkın Kaya G., Ceylan O.
IEEE JOURNAL OF SELECTED TOPICS IN APPLIED EARTH OBSERVATIONS AND REMOTE SENSING, cilt.12, sa.12, ss.4690-4697, 2019 (SCI-Expanded)
- XII. **An Out-of-Sample Extension to Manifold Learning via Meta-Modeling**
Taşkın Kaya G., Crawford M. M.
IEEE TRANSACTIONS ON IMAGE PROCESSING, cilt.28, sa.10, ss.5227-5237, 2019 (SCI-Expanded)
- XIII. **Selection of PolSAR Observables for Crop Biophysical Variable Estimation With Global Sensitivity Analysis**

- Erten E., Taşkın Kaya G., Lopez-Sanchez J. M.
IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, cilt.16, sa.5, ss.766-770, 2019 (SCI-Expanded)
- XIV. **Feature Selection Based on High Dimensional Model Representation for Hyperspectral Images**
Taşkın Kaya G., Kaya H., Bruzzone L.
IEEE TRANSACTIONS ON IMAGE PROCESSING, cilt.26, sa.6, ss.2918-2928, 2017 (SCI-Expanded)
- XV. **The Second GRSS Turkey Chapter Summer School [Chapters]**
Taşkın Kaya G., Erten E., Ertürk A., Taşdemir K.
IEEE GEOSCIENCE AND REMOTE SENSING MAGAZİNE, cilt.4, sa.3, ss.76-78, 2016 (SCI-Expanded)
- XVI. **The Second GRSS Turkey Chapter Summer School**
Erten E., Taskin G., ERTÜRK A., TAŞDEMİR K.
IEEE GEOSCIENCE AND REMOTE SENSING MAGAZİNE, cilt.4, sa.3, ss.76-78, 2016 (SCI-Expanded)
- XVII. **Paddy-Rice Phenology Classification Based on Machine-Learning Methods Using Multitemporal Co-Polar X-Band SAR Images**
Kucuk C., TASKIN G., Erten E.
IEEE JOURNAL OF SELECTED TOPICS IN APPLIED EARTH OBSERVATIONS AND REMOTE SENSING, cilt.9, sa.6, ss.2509-2519, 2016 (SCI-Expanded)
- XVIII. **Earthquake-induced damage classification from postearthquake satellite image using spectral and spatial features with support vector selection and adaptation**
Taskin G., Ersoy O. K., Kamaşak M. E.
JOURNAL OF APPLIED REMOTE SENSING, cilt.9, 2015 (SCI-Expanded)
- XIX. **A Hybrid Model for Classification of Remote Sensing Images With Linear SVM and Support Vector Selection and Adaptation**
Kaya G.
IEEE JOURNAL OF SELECTED TOPICS IN APPLIED EARTH OBSERVATIONS AND REMOTE SENSING, cilt.6, sa.4, ss.1988-1997, 2013 (SCI-Expanded)

Diğer Dergilerde Yayınlanan Makaleler

- I. **Manifold Öğrenme Yöntemleri ile Hiperspektral Verilerin Sınıflandırmasında Karşılaşılan Zorluklar ve Çözüm Yöntemleri**
TAŞKIN KAYA G.
Harita Dergisi, 2018 (Hakemli Dergi)
- II. **Relations Between the Matrix Algebraic Factorized Type Solutions at Different Singular Points for Generalized Hypergeometric Functions of Type $p \ 1Fp$**
METİN D., TAŞKIN KAYA G.
Applied Numerical Analysis Computational Mathematics, cilt.2, sa.2, ss.227-237, 2005 (Hakemli Dergi)

Kitap & Kitap Bölümleri

- I. **A Review on Multi-temporal Earthquake Damage Assessment Using Satellite Images**
TAŞKIN KAYA G., ERTEN E., Alataş E. O.
Change Detection and Image Time Series Analysis 2: Supervised Methods, Abdourrahmane M. atto, Francesca Bovolo, Lorenzo Bruzzone, Editör, WILEY, ss.155-205, 2021

Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

- I. **Evaluation of Modern Deep Learning Architectures in Remote Sensing Scene Classification**
Taskin G., Kaya H.

10th International Conference on Recent Advances in Air and Space Technologies, RAST 2023, İstanbul, Türkiye, 7 - 09 Haziran 2023

- II. **Informative Earth Observation Variables for Cotton Yield Prediction Using Explainable Boosting Machine**
Çelik M. F., Serkan Isik M., Erten E., Taskin G.
2023 IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2023, California, Amerika Birleşik Devletleri, 16 - 21 Temmuz 2023, cilt.2023-July, ss.3542-3545
- III. **An explainable meta-modeling approach to investigate the energy behavior of reinforced concrete structural walls**
DEĞER Z., TAŞKIN KAYA G.
12th US National Conference on Earthquake Engineering, Salt Lake City, Amerika Birleşik Devletleri, 27 Haziran - 01 Temmuz 2022
- IV. **Fully Unsupervised Binary Change Detection for Hyperspectral Images Using Laplacian Eigenmaps and Clustering**
Taşkın Kaya G., ERTÜRK A.
2022 IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, M2GARSS 2022, Virtual, Online, Türkiye, 7 - 09 Mart 2022, ss.37-40
- V. **A Model Distillation Approach for Explaining Black-Box Models for Hyperspectral Image Classification**
Taşkın Kaya G.
2022 IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2022, Kuala-Lumpur, Malezya, 17 - 22 Temmuz 2022, cilt.2022-July, ss.3592-3595
- VI. **Investigation of Influential Parameters on Energy Dissipation Capacity of RC Shear Walls Based on Machine Learning Methods**
Topaloğlu B., TAŞKIN KAYA G., SÜTCÜ F., DEĞER Z.
6th International Earthquake Engineering and Seismology Conference – 6ICEES, Kocaeli, Türkiye, 13 Ekim 2021
- VII. **An interpretable model to predict seismic failure mode of reinforced concrete shear walls**
DEĞER Z., TAŞKIN KAYA G.
EERI Annual Meeting 2021, Amerika Birleşik Devletleri, 23 - 25 Mart 2021
- VIII. **Optimization of Graph Affinity Matrix with Heuristic Methods in Dimensionality Reduction of Hypespectral Images**
CEYLAN O., TAŞKIN KAYA G.
2019 27th Signal Processing and Communications Applications Conference (SIU), Sivas, Turkey, Türkiye, 24 - 26 Nisan 2019
- IX. **GRAPH OPTIMIZED LOCALITY PRESERVING PROJECTION VIA HEURISTIC OPTIMIZATION ALGORITHMS**
CEYLAN O., TAŞKIN KAYA G.
IEEE Geoscience and Remote Sensing Symposium, 28 Temmuz - 02 Ağustos 2019
- X. **Attribute Profiles in Earthquake Damage Identification from Very High Resolution Post Event Image**
Alatas E. O., TAŞKIN KAYA G.
IGARSS 2019 - 2019 IEEE International Geoscience and Remote Sensing Symposium, Yokohama, Japan, 28 Temmuz - 02 Ağustos 2019
- XI. **Multi-Output Regressions For Estimating Canola Biophysical Parameters From PolSAR Data**
Şahin Z. M., ERTEN E., TAŞKIN KAYA G.
2019 8th International Conference on Agro-Geoinformatics (Agro-Geoinformatics), Istanbul, Turkey, 16 - 19 Temmuz 2019
- XII. **Detection of Shallow Water Area with Machine Learning Algorithms**
YAĞMUR N., TAŞKIN KAYA G., MUSAOĞLU N.
ISPRS GEOSPATIAL WEEK, 10 - 14 Haziran 2019
- XIII. **COMPARISON OF OBJECT BASED MACHINE LEARNING CLASSIFICATIONS OF PLANETSCOPE AND WORLDVIEW-3 SATELLITE IMAGES FOR LAND USE / COVER**

Tuzcu A., Taşkın Kaya G., Musaoğlu N.

ISPRS Geospatial Week 2019, Enschede, Hollanda, 10 Haziran - 14 Temmuz 2019, ss.1887-1892

- XIV. **GLOBAL SENSITIVITY ANALYSIS OF POLARIMETRIC DATA TO RETRIEVE BIOPHYSICAL PARAMETERS OF CANOLA AND BARLEY CROPS**
Erten E., Taskin G., Lopez-Sanchez J. M.
38th IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Valencia, İspanya, 22 - 27 Temmuz 2018, ss.3836-3839
- XV. **ACTIVE MANIFOLD LEARNING FOR HYPERSPECTRAL IMAGE CLASSIFICATION**
Zhang Z., Taşkın Kaya G., Crawford M. M.
38th IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Valencia, İspanya, 22 - 27 Temmuz 2018, ss.2587-2590
- XVI. **Using single-and multi-target regression to estimate biophysical parameters of crops**
Şahin Z. M., ERTEN E., MUSAOĞLU N., CANBAY D. E., TAŞKIN KAYA G.
2018 26th Signal Processing and Communications Applications Conference (SIU), İzmir, Türkiye, 2 - 05 Mayıs 2018
- XVII. **EXTENDING OUT-OF-SAMPLE MANIFOLD LEARNING VIA META-MODELLING TECHNIQUES**
Taşkın Kaya G., Crawford M.
IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Texas, Amerika Birleşik Devletleri, 23 - 28 Temmuz 2017, ss.562-565
- XVIII. **A COMPARISON OF DIFFERENTIAL EVOLUTION AND HARMONY SEARCH METHODS FOR SVM MODEL SELECTION IN HYPERSPECTRAL IMAGE CLASSIFICATION**
Ceylan O., Taskin G.
36th IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Beijing, Çin, 10 - 15 Temmuz 2016, ss.485-488
- XIX. **A COMPREHENSIVE EVALUATION OF FEATURE SELECTION ALGORITHMS IN HYPERSPECTRAL IMAGE CLASSIFICATION**
Vijouyeh H. G., Taskin G.
36th IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Beijing, Çin, 10 - 15 Temmuz 2016, ss.489-492
- XX. **SVM Parameter Selection Based on Harmony Search with an Application to Hyperspectral Image Classification**
Ceylan O., Taşkın Kaya G.
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Türkiye, 16 - 19 Mayıs 2016, ss.657-660
- XXI. **Use of High Dimensional Model Representation in Dimensionality Reduction: Application to Hyperspectral Image Classification**
Taşkın Kaya G.
22nd SPIE Conference on Algorithms and Technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery XXII, Maryland, Amerika Birleşik Devletleri, 18 - 21 Nisan 2016, cilt.9840
- XXII. **SVM Model Selection by High Dimensional Model Representation**
KAYA H., TAŞKIN KAYA G., OKAN K E.
IEEE International Geosciences and Remote Sensing Symposium (IGARSS'13), 21 - 26 Temmuz 2013
- XXIII. **Approximation Scheme for Multivariate Hypersurface Fitting Problems**
TAŞKIN KAYA G., SAYGIN H., Metin D.
International Symposium on Geographic Information Systems, İstanbul, Türkiye, 23 - 26 Eylül 2002
- XXIV. **Least Squares Curve Fitting via High Dimensional Model Representation for Digital Elevation Model**
TAŞKIN KAYA G., SAYGIN H., Metin D., YANALAK M.
International Symposium on Geographic Information Systems, İstanbul, Türkiye, 23 - 26 Eylül 2002
- XXV. **Change detection in very high resolution imagery based on dynamic time warping An implementation for Haiti earthquake damage assessment**
TAŞKIN KAYA G., Huseyin K., Okan K E.
2011 6th International Workshop on the Analysis of Multi-temporal Remote Sensing Images (Multi-Temp), Trento,

Italy, 12 - 14 Temmuz 2011, ss.13-16

- XXVI. **Spectral and spatial classification of earthquake images by support vector selection and adaptation**
TAŞKIN KAYA G., Okan K E., KAMAŞAK M. E.
2010 International Conference of Soft Computing and Pattern Recognition, Cergy-Pontoise, France, Fransa, 7 - 10 Aralık 2010, cilt.194
- XXVII. **Random Data Partitioning via Generalized High Dimensional Model Representation for Digital Elevation Models by Using Cubic Spline Interpolation**
TAŞKIN KAYA G., Metin D.
International Conference of Numerical Analysis and Applied Mathematics (ICNAAM 2005), 16 - 18 Eylül 2005
- XXVIII. **Support Vector Selection and Adaptation**
TAŞKIN KAYA G., Ersoy O. K., KAMAŞAK M. E.
International Symposium on Innovations in Intelligent Systems and Applications, 29 Haziran - 01 Temmuz 2009
- XXIX. **Relations Between the Matrix Algebraic Factorized Type Solutions at Different Singular Points for Generalized Hypergeometric Functions of Type $p \ 1Fp$**
Metin D., TAŞKIN KAYA G.
International Conference of Numerical Analysis and Applied Mathematics (ICNAAM 2004), Chalkis, Yunanistan, 10 - 14 Eylül 2004
- XXX. **Bilişim Türkçesi**
Sevda Ü., TAŞKIN KAYA G.
Akademik Bilişim, Trabzon, Türkiye, 11 - 13 Şubat 2004
- XXXI. **Optimization of GPS Observation Strategy for Improvement of Tectonic Measurements**
TAŞKIN KAYA G., Sevda Ü., ERGİNTAV S., SAYGIN H.
The IASTED International Conference on Applied Simulation and Modelling, Marbella, İspanya, 3 - 05 Eylül 2003
- XXXII. **İstanbul Teknik Üniversitesi nde Temel Bilişim Eğitimi**
TAŞKIN KAYA G., Sevda Ü., Metin D.
Akademik Bilişim, Adana, Türkiye, 3 - 05 Şubat 2003

Desteklenen Projeler

Taşkın Kaya G., Yükseköğretim Kurumları Destekli Proje, A COMPARISON OF DIFFERENTIAL EVOLUTION AND HARMONY SEARCH METHODS FOR SVM MODEL SELECTION IN HYPERSPECTRAL IMAGE CLASSIFICATION, 2016 - 2018

Taşkın Kaya G., Yükseköğretim Kurumları Destekli Proje, A NOVEL METHOD FOR FEATURE SELECTION WITH RANDOM SAMPLING HDMR AND ITS APPLICATION TO HYPERSPECTRAL IMAGE CLASSIFICATION, 2015 - 2018

Taşkın Kaya G., Yükseköğretim Kurumları Destekli Proje, Recursive Feature Selection Based on Non-parallel SVMs and Its Application to Hyperspectral Image Classification, 2014 - 2018

Taşkın Kaya G., Yükseköğretim Kurumları Destekli Proje, Yüksek Boyutlu Model Gösterimi ile DVM Yöntemi Model Seçimi, 2013 - 2018

Taşkın Kaya G., Yükseköğretim Kurumları Destekli Proje, FEATURE SELECTION BY HIGH DIMENSIONAL MODEL REPRESENTATION AND ITS APPLICATION TO REMOTE SENSING, 2012 - 2018

Bilimsel Hakemlikler

IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, SCI Kapsamındaki Dergi, Ocak 2012

IEEE Transactions on Geoscience and Remote Sensing, SCI Kapsamındaki Dergi, Ocak 2011

Metrikler

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