

Dr.Öğr.Üyesi ELİF VURAL

Kişisel Bilgiler

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Eğitim Bilgileri

Doktora, Ecole Polytechnique Fédérale De Lausanne, Epfl (The Federal Institute Of Technology, Lausanne), Mühendislik Fakültesi, Elektrik Ve Elektronik Mühendisliği Bölümü, İsviçre 2008 - 2013

Yüksek Lisans, Orta Doğu Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik Ve Elektronik Mühendisliği Bölümü, Türkiye 2006 - 2008

Lisans Çift Anadal, Orta Doğu Teknik Üniversitesi, Fen Edebiyat Fakültesi , Matematik, Türkiye 2003 - 2006

Lisans, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Elektrik ve Elektronik Mühendisliği Bölümü, Türkiye 2002 - 2006

Yaptığı Tezler

Doktora, Transformation-Invariant Analysis of Visual Signals with Parametric Models, Ecole Polytechnique Federale De Lausanne, 2013

Yüksek Lisans, Robust extraction of sparse 3D points from image sequences, Orta Doğu Teknik Üniversitesi, Fen Bilimleri Enstitüsü, 2008

Araştırma Alanları

Elektrik-Elektronik Mühendisliği

Akademik Unvanlar / Görevler

Dr.Öğr.Üyesi, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Elektrik ve Elektronik Mühendisliği Bölümü, 2015 - Devam Ediyor

Verdiği Dersler

Engineering Design I, Lisans, 2015 - 2016, 2016 - 2017, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021

Signals and Systems 1, Lisans, 2019 - 2020, 2020 - 2021

ENGINEERING DESIGN II, Lisans, 2015 - 2016, 2016 - 2017, 2017 - 2018, 2018 - 2019, 2019 - 2020

Signals and Systems II, Lisans, 2019 - 2020

Seminar, Yüksek Lisans, 2018 - 2019

Graduate Seminars, Doktora, 2018 - 2019

Probability and Stochastic Processes, Yüksek Lisans, 2015 - 2016, 2016 - 2017, 2017 - 2018

Yonetilen Tezler

- Vural E., ESTIMATION OF PARTIALLY OBSERVED MULTIPLE GRAPH SIGNALS BY LEARNING SPECTRALLY CONCENTRATED GRAPH KERNELS, Yüksek Lisans, G.TURHAN(Öğrenci), 2021
- Vural E., Multi-modal learning with generalizable nonlinear dimensionality reduction, Yüksek Lisans, S.KAYA(Öğrenci), 2019
- VURAL E., Dictionary learning for efficient classification with 1-sparse representations, Yüksek Lisans, E.ENGİN(Öğrenci), 2018
- VURAL E., Nonlinear supervised dimensionality reduction via smooth regular embeddings, Yüksek Lisans, C.ÖRNEK(Öğrenci), 2018
- VURAL E., Domain adaptation on graphs by learning aligned graph bases, Yüksek Lisans, M.PİLANCI(Öğrenci), 2018
- VURAL E., Clustering of manifold-modeled data based on tangent space variations, Yüksek Lisans, G.GÖKDOĞAN(Öğrenci), 2017
- ALATAN A. A. , VURAL E., Spectral graph based approach for analysis of 3D LIDAR point clouds, Yüksek Lisans, E.BAYRAM(Öğrenci), 2017
- VURAL E., DIM POINT TARGET TRACKING IN INFRARED IMAGE SEQUENCES WITH LOW SNR, Yüksek Lisans, Z.SELİN(Öğrenci), 2016

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **Learning Multi-Modal Nonlinear Embeddings: Performance Bounds and an Algorithm**
Kaya S., VURAL E.
IEEE TRANSACTIONS ON IMAGE PROCESSING, cilt.30, ss.4384-4394, 2021 (SCI İndekslerine Giren Dergi)
- II. **Domain Adaptation on Graphs by Learning Aligned Graph Bases**
Pılançı M., Vural E.
IEEE Transactions On Knowledge And Data Engineering, cilt.0, ss.1-14, 2020 (SCI Expanded İndekslerine Giren Dergi)
- III. **Mask Combination of Multi-Layer Graphs for Global Structure Inference**
Bayram E., Thanou D., VURAL E., Frossard P.
IEEE TRANSACTIONS ON SIGNAL AND INFORMATION PROCESSING OVER NETWORKS, cilt.6, ss.394-406, 2020 (SCI İndekslerine Giren Dergi)
- IV. **Nonlinear supervised dimensionality reduction via smooth regular embeddings**
Ornek C., VURAL E.
PATTERN RECOGNITION, cilt.87, ss.55-66, 2019 (SCI İndekslerine Giren Dergi)
- V. **Domain adaptation on graphs by learning graph topologies: theoretical analysis and an algorithm**
Vural E.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, cilt.27, sa.3, ss.1619-1635, 2019 (SCI İndekslerine Giren Dergi)
- VI. **Analysis of Airborne LiDAR Point Clouds With Spectral Graph Filtering**
Bayram E., Frossard P., Vural E., Alatan A. A.
IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, cilt.15, ss.1284-1288, 2018 (SCI İndekslerine Giren Dergi)
- VII. **A Study of the Classification of Low-Dimensional Data with Supervised Manifold Learning**
VURAL E., Guillemot C.
JOURNAL OF MACHINE LEARNING RESEARCH, cilt.18, ss.1-55, 2018 (SCI İndekslerine Giren Dergi)
- VIII. **Out-of-Sample Generalizations for Supervised Manifold Learning for Classification**
VURAL E., Guillemot C.
IEEE TRANSACTIONS ON IMAGE PROCESSING, cilt.25, sa.3, ss.1410-1424, 2016 (SCI İndekslerine Giren Dergi)
- IX. **Geometry-Aware Neighborhood Search for Learning Local Models for Image Superresolution**
Ferreira J. C. , VURAL E., Guillemot C.
IEEE TRANSACTIONS ON IMAGE PROCESSING, cilt.25, sa.3, ss.1354-1367, 2016 (SCI İndekslerine Giren Dergi)
- X. **Analysis of Image Registration with Tangent Distance**
Vural E., Frossard P.

SIAM JOURNAL ON IMAGING SCIENCES, cilt.7, sa.4, ss.2860-2915, 2014 (SCI İndekslerine Giren Dergi)

XI. Learning Smooth Pattern Transformation Manifolds

Vural E., Frossard P.

IEEE TRANSACTIONS ON IMAGE PROCESSING, cilt.22, sa.4, ss.1311-1325, 2013 (SCI İndekslerine Giren Dergi)

XII. Analysis of Descent-Based Image Registration

Vural E., Frossard P.

SIAM JOURNAL ON IMAGING SCIENCES, cilt.6, sa.4, ss.2310-2349, 2013 (SCI İndekslerine Giren Dergi)

XIII. Discretization of Parametrizable Signal Manifolds

Vural E., Frossard P.

IEEE TRANSACTIONS ON IMAGE PROCESSING, cilt.20, sa.12, ss.3621-3633, 2011 (SCI İndekslerine Giren Dergi)

Diğer Dergilerde Yayınlanan Makaleler

I. Tangent space estimation for smooth embeddings of Riemannian manifolds

Tyagi H., VURAL E., Frossard P.

Information and Inference: A Journal of the IMA, cilt.2, ss.69-114, 2013 (Diğer Kurumların Hakemli Dergileri)

Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

I. A Theoretical Analysis of Multi-Modal Representation Learning with Regular Functions

Vural E.

2020 28th Signal Processing and Communications Applications Conference (SIU), Gaziantep, Türkiye, 5 - 07 Ekim 2020, ss.1-4

II. Investigation of Stationarity for Graph Time Series Data Sets

Güneyi E. T. , Vural E.

2020 28th Signal Processing and Communications Applications Conference (SIU), 5 - 07 Ekim 2020, ss.1-4

III. Multi-Modal Learning With Generalizable Nonlinear Dimensionality Reduction

KAYA S., VURAL E.

2019 IEEE International Conference on Image Processing (ICIP), Taipei, Tayvan, 22 - 25 Eylül 2019, ss.2139-2143

IV. Domain Adaptation with Nonparametric Projections

Vural E.

2019 27th Signal Processing and Communications Applications Conference (SIU), Sivas, Türkiye, 24 - 26 Nisan 2019, ss.1-4

V. Domain Adaptation on Graphs via Frequency Analysis

Pılandı M., Vural E.

2019 27th Signal Processing and Communications Applications Conference (SIU), Sivas, Türkiye, 24 - 26 Nisan 2019, ss.1-4

VI. Cross-modal Representation Learning with Nonlinear Dimensionality Reduction

Kaya S., Vural E.

2019 27th Signal Processing and Communications Applications Conference (SIU), Sivas, Türkiye, 24 - 26 Nisan 2019, ss.1-4

VII. Learning Semi-Supervised Nonlinear Embeddings for Domain-Adaptive Pattern Recognition

VURAL E.

International Conference on Advanced Technologies, Computer Engineering and Science (ICATCES 2019), Antalya, Alanya, Türkiye, 26 - 28 Nisan 2019, ss.295-299

VIII. GENERALIZATION BOUNDS FOR DOMAIN ADAPTATION VIA DOMAIN TRANSFORMATIONS

VURAL E.

IEEE 28th International Workshop on Machine Learning for Signal Processing (MLSP), Aalborg, Danimarka, 17 - 20 Eylül 2018

- IX. GENERALIZABLE SUPERVISED MANIFOLD LEARNING VIA LIPSCHITZ CONTINUOUS INTERPOLATORS**
Ornek C., VURAL E.
IEEE 28th International Workshop on Machine Learning for Signal Processing (MLSP), Aalborg, Danimarka, 17 - 20 Eylül 2018
- X. PROGRESSIVE CLUSTERING OF MANIFOLD-MODELED DATA BASED ON TANGENT SPACE VARIATIONS**
Gokdogan G., VURAL E.
27th IEEE International Workshop on Machine Learning for Signal Processing (MLSP), Tokyo, Japonya, 25 - 28 Eylül 2017
- XI. A Graph Signal Filtering Based Approach for Detection of Different Edge Types on Airborne LiDAR Data**
Bayram E., Vural E., Alatan A. A.
Conference on Lidar Technologies, Techniques, and Measurements for Atmospheric Remote Sensing XIII, Warszawa, Polonya, 11 - 12 Eylül 2017, cilt.10429
- XII. DOMAIN ADAPTATION VIA TRANSFERRING SPECTRAL PROPERTIES OF LABEL FUNCTIONS ON GRAPHS**
Pilanci M., VURAL E.
12th IEEE Image, Video, and Multidimensional Signal Processing Workshop (IVMSP), Bordeaux, Fransa, 11 - 12 Temmuz 2016
- XIII. A performance study of the tangent distance method in transformation-invariant image classification**
VURAL E., Frossard P.
2015 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), South Brisbane, Queensland, Australia, Avustralya, 19 - 24 Nisan 2015, ss.5773-5777
- XIV. TRANSFORMATION-INVARIANT DICTIONARY LEARNING FOR CLASSIFICATION WITH 1-SPARSE REPRESENTATIONS**
Yuzuguler A. C. , Vural E., Frossard P.
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Florence, İtalya, 4 - 09 Mayıs 2014
- XV. Analysis of Hierarchical Image Alignment with Descent Methods**
Vural E., Frossard P.
10th International Conference on Sampling Theory and Applications, Bremen, Almanya, 1 - 05 Temmuz 2013
- XVI. Tangent Space Estimation Bounds for Smooth Manifolds**
Tyagi H., Vural E., Frossard P.
10th International Conference on Sampling Theory and Applications, Bremen, Almanya, 1 - 05 Temmuz 2013
- XVII. Learning pattern transformation manifolds for classification**
VURAL E., Frossard P.
2012 19th IEEE International Conference on Image Processing, Orlando, FL, USA, Amerika Birleşik Devletleri, 30 Eylül - 03 Ekim 2012, ss.1165-1168
- XVIII. Alignment of uncalibrated images for multi-view classification**
Arik S. Ö. , VURAL E., Frossard P.
2011 18th IEEE International Conference on Image Processing, Brussels, Belgium, Belçika, 11 - 14 Eylül 2011, ss.2365-2368
- XIX. Approximation of pattern transformation manifolds with parametric dictionaries**
VURAL E., Frossard P.
2011 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Prague, Czech Republic, Çek Cumhuriyeti, 22 - 27 Mayıs 2011, ss.977-980
- XX. Learning Pattern Transformation Manifolds with Parametric Atom Selection**
Vural E., Frossard P.
9th International Conference on Sampling Theory and Applications, Singapore, Singapur, 2 - 06 Mayıs 2011
- XXI. Curvature analysis of pattern transformation manifolds**
VURAL E., Frossard P.
2010 IEEE International Conference on Image Processing, Hong Kong, Hong Kong, Hong Kong, 26 - 29 Eylül 2010,

ss.2689-2692

XXII. Distance-based discretization of parametric signal manifolds

VURAL E., Frossard P.

2010 IEEE International Conference on Acoustics, Speech and Signal Processing, Dallas, TX, USA, Amerika Birleşik Devletleri, 14 - 19 Mart 2010, ss.3574-3577

XXIII. Outlier removal for sparse 3D reconstruction from video

VURAL E., ALATAN A. A.

3DTV Conference - True Vision - Capture, Transmission and Display of 3D Video, İstanbul, Türkiye, 28 - 30 Mayıs 2008, ss.321-324

Bilimsel Hakemlikler

IEEE TRANSACTIONS ON IMAGE PROCESSING, SCI-E Kapsamındaki Dergi, Mayıs 2020

NEURAL NETWORKS, SCI-E Kapsamındaki Dergi, Mayıs 2020

IEEE ACCESS, SCI-E Kapsamındaki Dergi, Mayıs 2020

IEEE TRANSACTIONS ON AUTOMATION SCIENCE AND ENGINEERING, SCI-E Kapsamındaki Dergi, Nisan 2020

IEEE TRANSACTIONS ON IMAGE PROCESSING, SCI-E Kapsamındaki Dergi, Mart 2020

JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, SCI-E Kapsamındaki Dergi, Şubat 2020

INFORMATION FUSION, SCI-E Kapsamındaki Dergi, Aralık 2019

IEEE TRANSACTIONS ON CYBERNETICS, SCI-E Kapsamındaki Dergi, Aralık 2019

IEEE Access, SCI-E Kapsamındaki Dergi, Kasım 2019

IEEE TRANSACTIONS ON CYBERNETICS, SCI-E Kapsamındaki Dergi, Kasım 2019

IEEE TRANSACTIONS ON SIGNAL AND INFORMATION PROCESSING OVER NETWORKS, SCI-E Kapsamındaki Dergi, Eylül 2019

IEEE TRANSACTIONS ON CYBERNETICS, SCI-E Kapsamındaki Dergi, Eylül 2019

PATTERN RECOGNITION, SCI-E Kapsamındaki Dergi, Mayıs 2019

PATTERN RECOGNITION, SCI-E Kapsamındaki Dergi, Nisan 2019

IEEE TRANSACTIONS ON CYBERNETICS, SCI-E Kapsamındaki Dergi, Nisan 2019

IEEE TRANSACTIONS ON IMAGE PROCESSING, SCI Kapsamındaki Dergi, Aralık 2018

IEEE TRANSACTIONS ON IMAGE PROCESSING, SCI Kapsamındaki Dergi, Aralık 2018

NEURAL PROCESSING LETTERS, SCI Kapsamındaki Dergi, Kasım 2018

JOURNAL OF ELECTRONIC IMAGING, SCI Kapsamındaki Dergi, Şubat 2018

DIGITAL SIGNAL PROCESSING, SCI-E Kapsamındaki Dergi, Aralık 2017

DIGITAL SIGNAL PROCESSING, SCI-E Kapsamındaki Dergi, Temmuz 2016

IEEE SIGNAL PROCESSING LETTERS, SCI-E Kapsamındaki Dergi, Mart 2016

IEEE TRANSACTIONS ON IMAGE PROCESSING, SCI-E Kapsamındaki Dergi, Şubat 2015

IEEE TRANSACTIONS ON IMAGE PROCESSING, SCI-E Kapsamındaki Dergi, Ocak 2015

IEEE TRANSACTIONS ON IMAGE PROCESSING, SCI-E Kapsamındaki Dergi, Kasım 2014

IEEE TRANSACTIONS ON IMAGE PROCESSING, SCI-E Kapsamındaki Dergi, Eylül 2013

IEEE TRANSACTIONS ON IMAGE PROCESSING, SCI-E Kapsamındaki Dergi, Eylül 2013

IEEE TRANSACTIONS ON IMAGE PROCESSING, SCI-E Kapsamındaki Dergi, Eylül 2012

IEEE TRANSACTIONS ON IMAGE PROCESSING, SCI-E Kapsamındaki Dergi, Şubat 2012

Atıflar

Toplam Atıf Sayısı (WOS):71

h-indeksi (WOS):6