

## Prof. Dr. ZEHRA SİBEL TARI

### Kişisel Bilgiler

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ScopusID: 6602689770

Yoksis Araştırmacı ID: 47250

### Eğitim Bilgileri

Doktora, Northeastern University, Amerika Birleşik Devletleri 1993 - 1997

### Yaptığı Tezler

Doktora, Shape Analysis without Segmentation, Northeastern University, 1997

### Araştırma Alanları

Bilgisayarla Görme, Yapay Zeka, Bilgisayarda Öğrenme ve Örüntü Tanıma

### Akademik Unvanlar / Görevler

Prof. Dr., Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 2009 - Devam Ediyor

Doç. Dr., Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 2003 - 2009

Yrd. Doç. Dr., Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 2001 - 2003

Yrd. Doç. Dr., Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Mühendislik Bilimleri Bölümü, 1998 - 2001

Araştırma Görevlisi, Northeastern University, 1992 - 1997

### Yönetilen Tezler

TARI Z. S., Visual Similarity for HDR Images with Applications to Tone Mapping, Doktora, M.AYDINLILAR(Öğrenci), 2021

TARI Z. S., İnsan perspektifinden simetri analizi, Yüksek Lisans, F.Çengel(Öğrenci), 2019

TARI Z. S., ZN'de gömülü şekillerin karmaşıklığı üzerine, Yüksek Lisans, M.Ferhat(Öğrenci), 2019

TARI Z. S., İlham avcısı: resim tasarımında fikir üretimini destekleyen bir yazılım platformu., Yüksek Lisans, G.Bal(Öğrenci), 2019

CAN T., TARI Z. S., Shape models based on elliptic pdes, associated energies, and their applications in 2d and 3d, Doktora, A.GENÇTAV(Öğrenci), 2018

TARI Z. S., Source-aggregated-poisson with applications to groupwise shape analysis and mesh segmentation, Doktora,

M.GENÇTAV(Öğrenci), 2018  
ULUSOY İ., TARI Z. S., Object recognition and segmentation via shape models, Doktora, M.BURAK(Öğrenci), 2016  
TARI Z. S., An Escher aware pattern analysis: Symmetry beyond symmetry groups, Doktora, V.ADANOVA(Öğrenci), 2015  
TARI Z. S., Global skeleton, Yüksek Lisans, M.GENÇTAV(Öğrenci), 2011  
TARI Z. S., Smoothing and differentiation of dynamic data, Yüksek Lisans, F.TİTREK(Öğrenci), 2010  
TARI Z. S., Part embedding for shape grammars, Doktora, H.YALIM(Öğrenci), 2010  
TÖNÜK E., TARI Z. S., Verification and Matlab Implementation of the Inverse Dynamic Model of METU Gait Analysis System, Yüksek Lisans, K.Savaş(Öğrenci), 2008  
TARI Z. S., Category knowledge, skeleton-based shape matching and shape classification, Doktora, İ.LAYKUT(Öğrenci), 2008  
TARI Z. S., Simultaneous bottom-up/top-down processing in early and mid level vision, Doktora, M.ERKUT(Öğrenci), 2008  
TARI Z. S., Human motion analysis via axis based representations, Yüksek Lisans, S.ERDEM(Öğrenci), 2007  
TARI Z. S., Edge preserving smoothing with directional consistency, Yüksek Lisans, A.SANCAR(Öğrenci), 2007  
TARI Z. S., Context sensitive matching of two shapes, Yüksek Lisans, E.BAŞESKİ(Öğrenci), 2006  
TARI Z. S., Disconnected skeletons for shape recognition, Yüksek Lisans, Ç.ASLAN(Öğrenci), 2005  
TARI Z. S., Cognitive aspects of image zooming, Yüksek Lisans, G.ÖNCÜL(Öğrenci), 2002

## SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **SHREC'21: Quantifying shape complexity**[Formula presented]  
ARSLAN M. F., Haridis A., Rosin P. L., TARI Z. S., Brassey C., Gardiner J. D., Genctav A., Genctav M.  
Computers and Graphics (Pergamon), cilt.102, ss.144-153, 2022 (SCI-Expanded)
- II. **An experimental evaluation of visual similarity for HDR images**  
Aydinlilar M., AKYÜZ A. O., TARI Z. S.  
MULTIMEDIA TOOLS AND APPLICATIONS, cilt.80, sa.21-23, ss.32449-32472, 2021 (SCI-Expanded)
- III. **Complexity of Shapes Embedded in Z with a Bias towards Squares**  
ARSLAN M. F., Tari S.  
IEEE Transactions on Image Processing, cilt.29, ss.8870-8879, 2020 (SCI-Expanded)
- IV. **Analysis of Planar Ornament Patterns via Motif Asymmetry Assumption and Local Connections**  
Adanova V., TARI Z. S.  
JOURNAL OF MATHEMATICAL IMAGING AND VISION, cilt.61, sa.3, ss.269-291, 2019 (SCI-Expanded)
- V. **Discrepancy: Local/Global Shape Characterization with a Roundness Bias**  
Genctav A., TARI Z. S.  
Journal of Mathematical Imaging and Vision, cilt.61, sa.1, ss.160-171, 2019 (SCI-Expanded)
- VI. **A probabilistic sparse skeleton based object detection**  
Altinoklu B., ULUSOY İ., Tari S.  
Pattern Recognition Letters, cilt.83, ss.243-250, 2016 (SCI-Expanded)
- VII. **NonLocal via Local-NonLinear via Linear: A New Part-coding Distance Field via Screened Poisson Equation**  
Genctav M., Genctav A., TARI Z. S.  
JOURNAL OF MATHEMATICAL IMAGING AND VISION, cilt.55, sa.2, ss.242-252, 2016 (SCI-Expanded)
- VIII. **Guest Editorial: Shape Analysis Beyond the Eikonal Equation**  
TARI Z. S., Vese L., Rangarajan A.  
JOURNAL OF MATHEMATICAL IMAGING AND VISION, cilt.55, sa.2, ss.151-152, 2016 (SCI-Expanded)
- IX. **Landmarks inside the shape: Shape matching using image descriptors**  
Guler R. A., TARI Z. S., ÜNAL G.  
PATTERN RECOGNITION, cilt.49, ss.79-88, 2016 (SCI-Expanded)
- X. **Beyond symmetry groups: A grouping study on Escher's Euclidean ornaments**  
Adanova V., Tari S.

- Graphical Models, cilt.83, ss.15-27, 2016 (SCI-Expanded)
- XI. **The Role of Diffusion in Figure Hunt Games**  
Diebold J., TARI Z. S., Cremers D.  
JOURNAL OF MATHEMATICAL IMAGING AND VISION, cilt.52, sa.1, ss.108-123, 2015 (SCI-Expanded)
- XII. **A robust method for scale independent detection of curvature-based criticalities and intersections in line drawings**  
Keles H. Y., TARI Z. S.  
PATTERN RECOGNITION, cilt.48, sa.1, ss.140-155, 2015 (SCI-Expanded)
- XIII. **From a Non-Local Ambrosio-Tortorelli Phase Field to a Randomized Part Hierarchy Tree**  
TARI Z. S., Genctav M.  
JOURNAL OF MATHEMATICAL IMAGING AND VISION, cilt.49, sa.1, ss.69-86, 2014 (SCI-Expanded)
- XIV. **Screened Poisson Hyperfields for Shape Coding**  
Guler R. A., TARI Z. S., ÜNAL G.  
SIAM JOURNAL ON IMAGING SCIENCES, cilt.7, sa.4, ss.2558-2590, 2014 (SCI-Expanded)
- XV. **Weighted shapes for embedding perceived wholes**  
Keles H. Y., Özkar Kabakçioğlu M., TARI Z. S.  
ENVIRONMENT AND PLANNING B-PLANNING & DESIGN, cilt.39, sa.2, ss.360-375, 2012 (SSCI)
- XVI. **A similarity-based approach for shape classification using Asian skeletons**  
Erdem A., Tari S.  
PATTERN RECOGNITION LETTERS, cilt.31, sa.13, ss.2024-2032, 2010 (SCI-Expanded)
- XVII. **Embedding shapes without predefined parts**  
Keles H. Y., Ozkar M., TARI Z. S.  
ENVIRONMENT AND PLANNING B-PLANNING & DESIGN, cilt.37, sa.4, ss.664-681, 2010 (SSCI)
- XVIII. **Dissimilarity between two skeletal trees in a context**  
Baseski E., Erdem A., TARI Z. S.  
PATTERN RECOGNITION, cilt.42, sa.3, ss.370-385, 2009 (SCI-Expanded)
- XIX. **Mumford-Shah Regularizer with Contextual Feedback**  
Erdem E., TARI Z. S.  
JOURNAL OF MATHEMATICAL IMAGING AND VISION, cilt.33, sa.1, ss.67-84, 2009 (SCI-Expanded)
- XX. **Disconnected Skeleton: Shape at Its Absolute Scale**  
Aslan C., Erdem A., Erdem E., Tari S.  
IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE, cilt.30, sa.12, ss.2188-2203, 2008 (SCI-Expanded)
- XXI. **Nested local symmetry set**  
Tari S., Shah J.  
COMPUTER VISION AND IMAGE UNDERSTANDING, cilt.79, sa.2, ss.267-280, 2000 (SCI-Expanded)
- XXII. **An integrated approach to computational vision - The edge strength function and the nested symmetries**  
Tari S.  
ADVANCES IN IMAGING AND ELECTRON PHYSICS, VOL 111, cilt.111, ss.327-366, 1999 (SCI-Expanded)
- XXIII. **Extraction of shape skeletons from grayscale images**  
Tari Z. S., Shah J., Pien H.  
COMPUTER VISION AND IMAGE UNDERSTANDING, cilt.66, sa.2, ss.133-146, 1997 (SCI-Expanded)
- XXIV. **SIMULATION CONCEPTS FOR INFORMATION-SYSTEM**  
MOURANT R., TARI S.  
COMPUTERS & INDUSTRIAL ENGINEERING, cilt.25, ss.541-544, 1993 (SCI-Expanded)

## **Diğer Dergilerde Yayınlanan Makaleler**

- I. **A Non-Structural Representation Scheme for Articulated Shapes**

Genctav A., TARI Z. S.

JOURNAL OF IMAGING, cilt.4, sa.10, 2018 (ESCI)

## **Kitap & Kitap Bölümleri**

- I. **A Data Driven Modeling of Ornaments**  
ADANOVA V., TARI Z. S.  
Research in Data Science, Ellen Gasparovic, Carlotta Domeniconi, Editör, Springer, ss.283-297, 2019
- II. **A Non-local Measure for Mesh Saliency via Feature Space Reduction**  
TARI Z. S., GENCTAV A., GENCTAV M.  
Research in Data Science, Ellen Gasparovic, Carlotta Domeniconi, Editör, Springer, ss.167-175, 2019
- III. **Multi-parameter Mumford-Shah Segmentation**  
GENCTAV M., TARI Z. S.  
Research in Shape Analysis, WISH2, Genctav, A., Leonard, K., Tari, S., Hubert, E., Morin, G., El-Zehiry, N., Chambers, E. (Eds.), Editör, SPRINGER, CHAM, ss.133-142, 2018
- IV. **Adaptive Deflation Stopped by Barrier Structure for Equating Shape Topologies Under Topological Noise**  
GENCTAV A., TARI Z. S.  
Research in Shape Analysis, WISH2, Genctav, A., Leonard, K., Tari, S., Hubert, E., Morin, G., El-Zehiry, N., Chambers, E. (Eds.), Editör, SPRINGER, CHAM, ss.95-111, 2018
- V. **Shape Patterns in Digital Fabrication: A Survey on Negative Poisson's Ratio Metamaterials**  
YILMAZ B., ADANOVA V., ACAR R., TARI Z. S.  
Research in Shape Analysis, WISH2, Genctav, A., Leonard, K., Tari, S., Hubert, E., Morin, G., El-Zehiry, N., Chambers, E. (Eds.), Editör, SPRINGER, CHAM, ss.161-172, 2018
- VI. **Ornament Analysis with the Help of Screened Poisson Shape Fields**  
TARI Z. S.  
Perspectives in Shape Analysis, Michael Breuß Alfred Bruckstein Petros Maragos Stefanie Wuhrer, Editör, SPRINGER, ss.3-13, 2016
- VII. **Automatic Prior Shape Selection for Image Segmentation**  
GUO W., QIN J., TARI Z. S.  
RESEARCH IN SHAPE MODELING, K. LEONARD, S. TARI, Editör, SPRINGER, ss.1-8, 2015
- VIII. **Part-Aware Distance Fields for Easy Inbetweening in Arbitrary dimensions**  
TARI Z. S.  
RESEARCH İN SHAPE MODELING, K. Leonard, S. Tari, Editör, SPRINGER, ss.27-39, 2015
- IX. **Revisiting Skeletons from Natural Images**  
ERDEM M. E., TARI Z. S.  
RESEARCH İN SHAPE MODELING, K. Leonard, S. Tari, Editör, SPRINGER, ss.101-112, 2015
- X. **Fluctuating distance fields, parts, three-partite skeletons**  
TARI Z. S.  
Innovations in Shape Analysis, BREUSS M, BRUCKSTEIN A, MARAGOS P, Editör, Springer Berlin Heidelberg, ss.439-466, 2013
- XI. **Minimally Stochastic Schemes for Singular Diffusion Equations**  
BURGETH B., WEICKERT J., TARI Z. S.  
IMAGE PROCESSING BASED ON PARTIAL DIFFERENTIAL EQUATIONS, TAI XC, LI KA, CHAN T, OSHER S, Editör, SPRINGER, ss.325-342, 2007

## **Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar**

- I. **Local Culprits of Shape Complexity**

ARSLAN M. F., TARI Z. S.

8th International Conference on Scale Space and Variational Methods in Computer Vision, SSVN 2021, Virtual, Online, 16 - 20 Mayıs 2021, ss.91-99

- II. **Veri Analizi Araçları Kullanarak Eklemli Şekilleri Şekil Bileşenlerini Bulmadan Temsil Etme**  
GENCTAV A., TARI Z. S.  
VI. International GAP Engineering Congress, 8 - 10 Kasım 2018
- III. **Photoshop plug-ins supporting visual design**  
BAL BOZKURT G., TARI Z. S.  
26th Signal Processing and Communications Applications Conference, 2 - 05 Mayıs 2018
- IV. **A Product Shape Congruity Measure via Entropy in Shape Scale Space**  
GENÇTAV A., TARI Z. S.  
EUSIPCO Workshops, Yunanistan, 28 Ağustos - 02 Eylül 2017
- V. **Stress Distribution Based Partitioning of Helmets for 3 D Printing**  
BAŞARA G., TARI İ., TARI Z. S.  
ASME International Mechanical Engineering Conference and Exhibition, Phoenix, Amerika Birleşik Devletleri, 11 - 17 Kasım 2016
- VI. **Extracting Unit Cells from Tilings with Color Symmetries Case of Counterchange Patterns**  
ADANOVA V., TARI Z. S.  
Bridges 2016, 9 - 13 Ağustos 2016
- VII. **NonLocal via Local NonLinear via Linear**  
GENÇTAV M., GENÇTAV A., TARI Z. S.  
SIAM Imaging Science 2016, 23 - 26 Mayıs 2016
- VIII. **3D Shape Correspondence Under Topological Noise**  
Genctav A., SAHİLLİOĞLU Y., TARI Z. S.  
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Türkiye, 16 - 19 Mayıs 2016, ss.401-404
- IX. **DIFFUSION IS UBIQUITOUS A VOLUME DECOMPOSITION APPLICATION FOR 3D PRINTING**  
TARI Z. S., GENCTAV A., GENCTAV M.  
Proceedings of the 1st Thermal and Fluid Engineering Summer Conference, TFESC, Amerika Birleşik Devletleri, 9 - 12 Ağustos 2015, ss.1-4
- X. **SHREC 15 Track Non rigid 3D Shape Retrieval**  
LIAN Z., ZHANG Z., S C., ELNAGHY H. E., SANA J. E., FURUYA T., GIACHETTI A., GÜLER A., LAI L., LI C., et al.  
Eurographics Workshop on 3D Object Retrieval, 2 - 03 Mayıs 2015
- XI. **Beyond symmetry groups: A grouping study on Escher's euclidean ornaments**  
Adanova V., Tari S.  
SIGGRAPH Asia 2014 Workshop on Creative Shape Modeling and Design, SA 2014, Shenzhen, Çin, 3 - 06 Aralık 2014
- XII. **Wimmelbild analysis with approximate curvature coding distance images**  
Bergbauer J., Tari S.  
4th International Conference on Scale Space and Variational Methods in Computer Vision, SSVN 2013, Leibnitz, Avusturya, 2 - 06 Haziran 2013, ss.489-500
- XIII. **Two Way Coupling of Lagrangian and Eulerian Governing Equations for Particles in Incompressible Fluids**  
TARI İ., TARI Z. S.  
SIAM Annual Meeting CP23, San Diego, Amerika Birleşik Devletleri, 8 - 12 Temmuz 2013
- XIV. **Part-Aware Distance Fields for Easy Inbetweening in Arbitrary Dimensions**  
TARI Z. S.  
Research in Shape Modeling, Los-Angeles, Şili, 01 Temmuz 2013, cilt.1, ss.27-39
- XV. **Revisiting Skeletons from Natural Images**  
Erdem E., TARI Z. S.  
Research in Shape Modeling, Los-Angeles, Şili, 01 Temmuz 2013, cilt.1, ss.101-113

- XVI. **Automatic Prior Shape Selection for Image Segmentation**  
Guo W., Qin J., TARI Z. S.  
Research in Shape Modeling, Los-Angeles, Şili, 01 Temmuz 2013, cilt.1, ss.1-8
- XVII. **Top down visual search in Wimmelbild**  
BERGBAUER J., TARI Z. S.  
Human Vision and Electronic Imaging XVIII, Burlingame, California, USA, 3 - 07 Şubat 2013
- XVIII. **From a Modified Ambrosio-Tortorelli to a Randomized Part Hierarchy Tree**  
TARI Z. S., Genctav M.  
3rd International Conference on Scale Space and Variational Methods in Computer Vision, Ein Gedi, İsrail, 29 Mayıs - 02 Haziran 2011, cilt.6667, ss.267-278
- XIX. **Components of the Shape Revisited**  
TARI Z. S., BURGETH B., TARI İ.  
2010 AAAI Spring Symposium Series, Palo Alto, Amerika Birleşik Devletleri, 22 - 24 Mart 2010
- XX. **Revisiting Shape Embedding**  
Keles H. Y., Ozkar M., TARI Z. S.  
27th Conference on Education and Research in Computer Aided Architectural Design in Europe, İstanbul, Türkiye, 16 - 19 Eylül 2009, ss.229-236
- XXI. **Hierarchical Shape Decomposition via Level Sets**  
TARI Z. S.  
9th International Symposium on Mathematical Morphology, Groningen, Hollanda, 24 - 27 Ağustos 2009, cilt.5720, ss.215-225
- XXII. **Modified Laplacians for shape analysis**  
TARI Z. S., BURGETH B., TARI İ.  
International Symposium on Mathematical Morphology, Groningen, Hollanda, 24 - 27 Ağustos 2009
- XXIII. **Coarse-to-Fine Matching of Shapes Using Disconnected Skeletons by Learning Class-Specific Boundary Deformations**  
Erdem A., TARI Z. S.  
7th International Workshop on Graph-Based Representations in Pattern Recognition, Venice, İtalya, 26 - 28 Mayıs 2009, cilt.5534, ss.21-22
- XXIV. **SEGMENTATION USING THE EDGE STRENGTH FUNCTION AS A SHAPE PRIOR WITHIN A LOCAL DEFORMATION MODEL**  
Erdem E., Tari S., Vese L.  
16th IEEE International Conference on Image Processing, Cairo, Mısır, 7 - 10 Kasım 2009, ss.2989-2990
- XXV. **Articulated motion analysis via axis-based representation**  
Erdem S., Tari S.  
Conference on Intelligent Robots and Computer Vision XXV - Algorithms, Techniques, and Active Vision, Massachusetts, Amerika Birleşik Devletleri, 9 - 11 Eylül 2007, cilt.6764
- XXVI. **Mumford-shah regularizer with spatial coherence**  
Erdem E., Sancar-Yilmaz A., Tari S.  
1st International Conference on Scale Space and Variational Methods in Computer Vision, Ischia, İtalya, 30 Mayıs - 02 Haziran 2007, cilt.4485, ss.545-547
- XXVII. **Senior year thermal design course elective or mandatory restricted elective**  
TARI İ., TARI Z. S.  
ASME International Mechanical Engineering Conference and Exhibition, Chicago, Amerika Birleşik Devletleri, 5 - 10 Kasım 2006
- XXVIII. **Edge strength functions as shape priors in image segmentation**  
Erdem E., Erdem A., Tari S.  
5th International Workshop on Energy Minimization Methods in Computer Vision and Pattern Recognition, EMMCVPR 2005, St. Augustine, FL, Amerika Birleşik Devletleri, 9 - 11 Kasım 2005, ss.490-502
- XXIX. **An axis-based representation for recognition**  
Aslan C., Tari S.

10th IEEE International Conference on Computer Vision (ICCV 2005), Beijing, Çin, 17 - 20 Ekim 2005, ss.1339-1346

**XXX. Coloring 3D symmetry set: perceptual meaning and significance in 3D**

Tari S.

Proceedings of the 1999 Visual Information Processing VIII, Orlando, FL, USA, 06 Nisan 1999, cilt.3716, ss.105-109

**XXXI. Local symmetries of shapes in arbitrary dimension**

Tari S., Shah J.

Proceedings of the 1998 IEEE 6th International Conference on Computer Vision, Bombay, India, 4 - 07 Ocak 1998, ss.1123-1127

**XXXII. Multiscale method for feature preserving compression**

Tari S., Liang P.

Conference on Nonlinear Image Processing IX, San-Jose, Kostarika, 26 - 27 Ocak 1998, cilt.3304, ss.316-322

**XXXIII. Direct gray scale ridge reconstruction in fingerprint images**

Domeniconi C., Tari S., Liang P.

IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 98), Washington, Amerika Birleşik Devletleri, 12 - 15 Mayıs 1998, ss.2941-2944

**XXXIV. Simultaneous segmentation of images and shapes**

Tari S., Shah J.

Conference on Vision Geometry VI, California, Amerika Birleşik Devletleri, 28 - 29 Temmuz 1997, cilt.3168, ss.88-94

**XXXV. Computationally efficient shape analysis via level sets**

Tari Z. S., Shah J., Pien H.

Proceedings of the 1996 Workshop on Mathematical Methods in Biomedical Image Analysis, San-Francisco, Kostarika, 21 - 22 Haziran 1996, ss.234-243

## **Metrikler**

Yayın: 71

Atıf (WoS): 351

Atıf (Scopus): 466

H-İndeks (WoS): 9

H-İndeks (Scopus): 11

## **Akademi Dışı Deneyim**

METU

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