

## Prof. HAKAN ÇEVİKALP

### Personal Information

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### Education Information

Doctorate, Vanderbilt University, Elektrik Mühendisliği, United States Of America 2001 - 2005

Postgraduate, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Elektrik-Elektronik Mühendisliği (YI) (Tezli), Turkey 1999 - 2001

Undergraduate, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 1995 - 1999

### Dissertations

Doctorate, Feature Extraction Techniques in High-Dimensional Spaces: Linear and nonlinear Approaches, Vanderbilt University, Elektrik Mühendisliği, 2005

Postgraduate, Gürültülü Verilerin Tanınmasının İyileştirilmesi, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Elektrik-Elektronik Mühendisliği (YI) (Tezli), 2001

### Research Areas

Engineering and Technology

### Academic Titles / Tasks

Professor, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, Elektrik-Elektronik Mühendisliği Bölümü, 2019 - Continues

Associate Professor, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, 2013 - 2019

### Published journal articles indexed by SCI, SSCI, and AHCI

- Reaching Nirvana: Maximizing the Margin in Both Euclidean and Angular Spaces for Deep Neural Network Classification**  
ÇEVİKALP H., Saribas H., UZUN B.  
IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS, 2024 (SCI-Expanded)
- Robust and compact maximum margin clustering for high-dimensional data**  
ÇEVİKALP H., Chome E.

- NEURAL COMPUTING & APPLICATIONS, vol.36, no.11, pp.5981-6003, 2024 (SCI-Expanded)
- III. **Dissected 3D CNNs: Temporal skip connections for efficient online video processing**  
Köpüklü O., Hörmann S., Herzog F., ÇEVİKALP H., Rigoll G.  
Computer Vision and Image Understanding, vol.215, 2022 (SCI-Expanded)
- IV. **Deep compact polyhedral conic classifier for open and closed set recognition**  
ÇEVİKALP H., UZUN B., Köpüklü O., Ozturk G.  
Pattern Recognition, vol.119, 2021 (SCI-Expanded)
- V. **Polyhedral Conic Classifiers for Computer Vision Applications and Open Set Recognition**  
ÇEVİKALP H., Sağlamlar H.  
IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE, vol.43, no.2, pp.608-622, 2021 (SCI-Expanded)
- VI. **Visual object detection for autonomous transport vehicles in smart factories**  
Gengeç N., Eker O., ÇEVİKALP H., YAZICI A., YAVUZ H. S.  
Turkish Journal of Electrical Engineering and Computer Sciences, vol.29, no.4, pp.2101-2115, 2021 (SCI-Expanded)
- VII. **The nearest polyhedral convex conic regions for high-dimensional classification**  
ÇEVİKALP H., Çimen E., Öztürk G.  
Turkish Journal of Electrical Engineering and Computer Sciences, vol.29, no.2, pp.913-928, 2021 (SCI-Expanded)
- VIII. **Face Recognition Based on Videos by Using Convex Hulls**  
ÇEVİKALP H., YAVUZ H. S., Triggs B.  
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS FOR VIDEO TECHNOLOGY, vol.30, no.12, pp.4481-4495, 2020 (SCI-Expanded)
- IX. **Video Based Face Recognition by Using Discriminatively Learned Convex Models**  
ÇEVİKALP H., Dordinejad G.  
INTERNATIONAL JOURNAL OF COMPUTER VISION, vol.128, no.12, pp.3000-3014, 2020 (SCI-Expanded)
- X. **Semi-supervised robust deep neural networks for multi-label image classification**  
ÇEVİKALP H., Benligiray B., Gerek O. N.  
PATTERN RECOGNITION, vol.100, 2020 (SCI-Expanded)
- XI. **High-dimensional data clustering by using local affine/convex hulls**  
ÇEVİKALP H.  
PATTERN RECOGNITION LETTERS, vol.128, pp.427-432, 2019 (SCI-Expanded)
- XII. **Recurrent neural networks for remote sensing image classification**  
Lakhal M. I., ÇEVİKALP H., Escalera S., Ofli F.  
IET COMPUTER VISION, vol.12, no.7, pp.1040-1045, 2018 (SCI-Expanded)
- XIII. **Large-scale image retrieval using transductive support vector machines**  
ÇEVİKALP H., Elmas M., Ozkan S.  
COMPUTER VISION AND IMAGE UNDERSTANDING, vol.173, pp.2-12, 2018 (SCI-Expanded)
- XIV. **Visual Object Detection Using Cascades of Binary and One-Class Classifiers**  
ÇEVİKALP H., Triggs B.  
INTERNATIONAL JOURNAL OF COMPUTER VISION, vol.123, no.3, pp.334-349, 2017 (SCI-Expanded)
- XV. **Best Fitting Hyperplanes for Classification**  
ÇEVİKALP H.  
IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE, vol.39, no.6, pp.1076-1088, 2017 (SCI-Expanded)
- XVI. **Large-scale robust transductive support vector machines**  
ÇEVİKALP H., Franc V.  
NEUROCOMPUTING, vol.235, pp.199-209, 2017 (SCI-Expanded)
- XVII. **Semi-supervised discriminative common vector method for computer vision applications**  
ÇEVİKALP H.  
NEUROCOMPUTING, vol.129, pp.289-297, 2014 (SCI-Expanded)
- XVIII. **Hyperdisk based large margin classifier**  
ÇEVİKALP H., Triggs B.

PATTERN RECOGNITION, vol.46, no.6, pp.1523-1531, 2013 (SCI-Expanded)

- XIX. DISTANCE METRIC LEARNING BY QUADRATIC PROGRAMMING BASED ON EQUIVALENCE CONSTRAINTS**  
ÇEVİKALP H.  
INTERNATIONAL JOURNAL OF INNOVATIVE COMPUTING INFORMATION AND CONTROL, vol.8, pp.7017-7030, 2012 (SCI-Expanded)
- XX. NON-SPEECH ENVIRONMENTAL SOUND CLASSIFICATION USING SVMs WITH A NEW SET OF FEATURES**  
Uz Kent B., Barkana B. D., ÇEVİKALP H.  
INTERNATIONAL JOURNAL OF INNOVATIVE COMPUTING INFORMATION AND CONTROL, vol.8, pp.3511-3524, 2012 (SCI-Expanded)
- XXI. Manifold Based Local Classifiers: Linear and Nonlinear Approaches**  
ÇEVİKALP H., Larlus D., Neamtu M., Triggs B., Jurie F.  
JOURNAL OF SIGNAL PROCESSING SYSTEMS FOR SIGNAL IMAGE AND VIDEO TECHNOLOGY, vol.61, no.1, pp.61-73, 2010 (SCI-Expanded)
- XXII. Large margin classifiers based on affine hulls**  
ÇEVİKALP H., Triggs B., YAVUZ H. S., KÜÇÜK Y., KÜÇÜK M., BARKANA A.  
NEUROCOMPUTING, vol.73, pp.3160-3168, 2010 (SCI-Expanded)
- XXIII. New clustering algorithms for the support vector machine based hierarchical classification**  
ÇEVİKALP H.  
PATTERN RECOGNITION LETTERS, vol.31, no.11, pp.1285-1291, 2010 (SCI-Expanded)
- XXIV. Two-dimensional subspace classifiers for face recognition**  
ÇEVİKALP H., YAVUZ H. S., Cay M. A., BARKANA A.  
NEUROCOMPUTING, vol.72, pp.1111-1120, 2009 (SCI-Expanded)
- XXV. Local Classifier Weighting by Quadratic Programming**  
ÇEVİKALP H., Polikar R.  
IEEE TRANSACTIONS ON NEURAL NETWORKS, vol.19, no.10, pp.1832-1840, 2008 (SCI-Expanded)
- XXVI. Kernel common vector method: A Novel nonlinear subspace classifier for pattern recognition**  
ÇEVİKALP H., Neamtu M., Barkana A.  
IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART B-CYBERNETICS, vol.37, no.4, pp.937-951, 2007 (SCI-Expanded)
- XXVII. Discriminative common vector method with kernels**  
ÇEVİKALP H., Neamtu M., Wilkes M.  
IEEE TRANSACTIONS ON NEURAL NETWORKS, vol.17, no.6, pp.1550-1565, 2006 (SCI-Expanded)
- XXVIII. Discriminative common vectors for face recognition**  
ÇEVİKALP H., Neamtu M., Wilkes M., Barkana A.  
IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE, vol.27, no.1, pp.4-13, 2005 (SCI-Expanded)
- XXIX. Phantom validation of coregistration of PET and CT for image-guided radiotherapy**  
Lavelly W., Scarfone C., ÇEVİKALP H., Li R., Byrne D., Cmelak A., Dawant B., Price R., Hallahan D., Fitzpatrick J.  
MEDICAL PHYSICS, vol.31, no.5, pp.1083-1092, 2004 (SCI-Expanded)

## Articles Published in Other Journals

### I. Foreword

Aydn O., Özen A., Köse E., Çiçek S., Biçer M. B., Alcan V., Obuz S., Üstün D., Şenol A., Ateş V., et al.  
32nd IEEE Conference on Signal Processing and Communications Applications, SIU 2024 - Proceedings, 2024 (Scopus)

### II. THE FOURIER TRANSFORM BASED DESCRIPTOR FOR VISUAL OBJECT CLASSIFICATION

ÇEVİKALP H., KURT Z.

## Books & Book Chapters

### I. Bölüm 6. Bilgisayarlı Görü Uygulamaları

YAVUZ H. S., ÖZKAN M., ÇEVİKALP H.

in: Yapay Zekâ ve Büyük Veri Kitap Serisi 2: YAPAY ZEKA VE BÜYÜK VERİ: ENDÜSTRİ 4.0 VE YAPAY ZEKA, Sağırođlu Şeref, Demirezen Mustafa Umut, Yazıcı Ahmet, Editor, Nobel Akademik Yayıncılık, pp.153-182, 2021

### II. Bilgisayarlı Görü Uygulamaları

YAVUZ H. S., ÖZKAN M., ÇEVİKALP H.

in: Yapay Zekâ ve Büyük Veri Kitap Serisi 2: YAPAY ZEKÂ VE BÜYÜK VERİ: ENDÜSTRİ 4.0 VE YAPAY ZEKÂ, Sağırođlu Şeref, Demirezen Mustafa Umut, Yazıcı Ahmet, Editor, Nobel Akademik Yayıncılık, Ankara, pp.153-178, 2021

## Refereed Congress / Symposium Publications in Proceedings

### I. Classification of Data Corruption in Microcontroller-Based Serial-Optical Communication with Tensorflow-Lite Mikrodenetleyici Tabanlı Seri-Optik Haberleşmede Veri Bozulmasının Tensorflow-Lite ile Sınıflandırılması

Küçük Y., ÇEVİKALP H.

32nd IEEE Conference on Signal Processing and Communications Applications, SIU 2024, Mersin, Turkey, 15 - 18 May 2024

### II. Deep Uniformly Distributed Centers on a Hypersphere for Open Set Recognition

ÇEVİKALP H., YAVUZ H. S., SARİBAŞ H.

The 15th Asian Conference on Machine Learning, ACML2023, İstanbul, Turkey, 11 - 14 November 2023

### III. Gaze Estimation by Attention Using a Two-Stream Regression Network

Karazor A., Bayar A. E., Topal C., ÇEVİKALP H.

31st IEEE Conference on Signal Processing and Communications Applications (SIU), İstanbul, Turkey, 5 - 08 July 2023

### IV. Degree-based stratification of nodes in Graph Neural Networks

Ali A., Wolf L., ÇEVİKALP H.

15th Asian Conference on Machine Learning (ACML), İstanbul, Turkey, 11 - 14 November 2023

### V. PLANesT-3D: A new annotated data set of 3D color point clouds of plants

Mertoglu K., Salk Y., Sarikaya S. K., TURGUT K., EVRENOSOđLU Y., ÇEVİKALP H., Gerek O. N., DUTAđACI H., Rousseau D.

31st IEEE Conference on Signal Processing and Communications Applications (SIU), İstanbul, Turkey, 5 - 08 July 2023

### VI. Deep Simplex Classifier for Maximizing the Margin in Both Euclidean and Angular Spaces

ÇEVİKALP H., Saribas H.

23rd Scandinavian Conference on Image Analysis, SCIA 2023, Lapland, Finland, 18 - 21 April 2023, vol.13886 LNCS, pp.91-107

### VII. Benign and Malignant Tumor Segmentation on Thorax Computed Tomography Images

Yoldas I. N., ÇEVİKALP H., GÜNDOđDU M., AYDIN N., METİNTAŞ M.

31st IEEE Conference on Signal Processing and Communications Applications (SIU), İstanbul, Turkey, 5 - 08 July 2023

### VIII. Anomaly Detection with Deep Compact Hypersphere Derin Kompakt Hiperküre Yöntemi ile Anomali Sezimi

Salk Y., Uzun B., ÇEVİKALP H., Saribas H.

30th Signal Processing and Communications Applications Conference, SIU 2022, Safranbolu, Turkey, 15 - 18 May 2022

- IX. **Face Frontalization for Image Set Based Face Recognition Imge Kümeleri ile Yüz Tanimada Yüz Önleştirme**  
Dordinejad G., ÇEVİKALP H.  
30th Signal Processing and Communications Applications Conference, SIU 2022, Safranbolu, Turkey, 15 - 18 May 2022
- X. **High resolution video transmission using GNU radio and USRP GNU radio ve USRP kullanarak yüksek çözünürlüklü video aktarimi**  
DEMİR A., ÇEVİKALP H.  
29th IEEE Conference on Signal Processing and Communications Applications, SIU 2021, Virtual, Istanbul, Turkey, 9 - 11 June 2021
- XI. **Transductive polyhedral conic classifiers Transdükdif çokyüzlü konik sınıflandırıcılar**  
Saglamlar H., ÇEVİKALP H.  
29th IEEE Conference on Signal Processing and Communications Applications, SIU 2021, Virtual, Istanbul, Turkey, 9 - 11 June 2021
- XII. **The eighth visual object tracking VOT2020 challenge results**  
Kristan M., Leonardis A., Matas J., Felsberg M., Pflugfelder R., Kamarainen J. K., Danelljan M., Zajc L. C., Lukezi A., Drbohlav O., et al.  
Proc. 16th Eur. Conf. Comput. Vis. Workshop, 23 - 28 August 2020
- XIII. **Multi Center Polyhedral Conic Classifiers for Estimating Non-Linear Decision Boundaries**  
Saglamlar H., ÇEVİKALP H.  
28th Signal Processing and Communications Applications Conference (SIU), ELECTR NETWORK, 5 - 07 October 2020
- XIV. **3D Mapping and Localization on Aerial Images**  
Eker O., ÇEVİKALP H., UZUN B.  
28th Signal Processing and Communications Applications Conference (SIU), ELECTR NETWORK, 5 - 07 October 2020
- XV. **Optimal Task Allocation for Multiple UAVs**  
YAVUZ H. S., Goktas H., ÇEVİKALP H., Saribas H.  
28th Signal Processing and Communications Applications Conference (SIU), ELECTR NETWORK, 5 - 07 October 2020
- XVI. **Visual Object Detection System for Autonomous Vehicles in Smart Factories**  
Gengec N., ÇEVİKALP H., YAVUZ H. S., YAZICI A.  
Innovations in Intelligent Systems and Applications Conference (ASYU), İzmir, Turkey, 31 October - 02 November 2019, pp.57-61
- XVII. **A supervised clustering algorithm for the initialization of RBF neural network classifiers**  
ÇEVİKALP H., Larlus D., Jurie F.  
IEEE 15th Signal Processing and Communications Applications Conference, Eskişehir, Turkey, 11 - 13 June 2007, pp.141-144
- XVIII. **Theoretical analysis of linear discriminant analysis criteria**  
ÇEVİKALP H.  
IEEE 14th Signal Processing and Communications Applications, Antalya, Turkey, 16 - 19 April 2006, pp.5-8
- XIX. **Nonlinear Discriminative Common Vector method**  
ÇEVİKALP H., Neamtu M., Wilkes M.  
9th World Multi-Conference on Systemics, Cybernetics and Informatics, Florida, United States Of America, 10 - 13 July 2005, pp.338-343
- XX. **A comparison of the Common Vector and the Discriminative Common Vector methods for face recognition**  
ÇEVİKALP H., Barkana B., Barkana A.  
9th World Multi-Conference on Systemics, Cybernetics and Informatics, Florida, United States Of America, 10 - 13

July 2005, pp.248-253

**XXI. A novel method for face recognition**

ÇEVİKALP H., Neamtu M., Wilkes M., Barkana A.

IEEE 12th Signal Processing and Communications Applications Conference, Kusadasi, Turkey, 28 - 30 April 2004, pp.579-582

**XXII. Image-guided otologic surgery**

Labadie R., Fenlon M., ÇEVİKALP H., Harris S., Galloway R., Fitzpatrick J.

17th International Congress and Exhibition of Computer Assisted Radiology and Surgery, London, Canada, 25 - 28 June 2003, vol.1256, pp.627-632

## **Metrics**

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