

# Prof. MEHMET BİLGİNER GÜLMEZOĞLU

## Personal Information

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## International Researcher IDs

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## Education Information

Doctorate, Anadolu University, Institute Of Science, Elektrik-Elektronik Mühendisliği (Dr), Turkey 1987 - 1992

Postgraduate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Elektrik Ve Elektronik Mühendisliği (YI) (Tezli), Turkey 1983 - 1985

Undergraduate, Middle East Technical University, Faculty Of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 1977 - 1983

## Dissertations

Doctorate, Ses Yolunun Matematiksel Modeli, Anadolu University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği (Dr), 1992

## Research Areas

Engineering and Technology

## Academic Titles / Tasks

Professor, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, Elektrik-Elektronik Mühendisliği Bölümü, 2008 - Continues

Associate Professor, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, Elektrik-Elektronik Mühendisliği Bölümü, 2002 - 2008

Assistant Professor, Eskisehir Osmangazi University, MÜHENDİSLİK-MİMARLIK FAKÜLTESİ, Elektrik-Elektronik Mühendisliği Bölümü, 1993 - 2002

Lecturer, Anadolu University, Faculty Of Engineering-Architecture, Department Of Electrical And Electronic Engineering, 1986 - 1993

## Courses

### Undergraduate

Digital Signal Processing, Undergraduate, 2020 - 2021

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

- I. **Indifference subspace of deep features for lung nodule classification from CT images**  
Ashames M. M., DEMİR A., Koc M., Fidan M., ERGİN S., GÜLMEZOĞLU M. B., BARKANA A., GEREK O. N.  
Expert Systems with Applications, vol.262, 2025 (SCI-Expanded)
- II. **Are deep learning classification results obtained on CT scans fair and interpretable?**  
Ashames M. M. A., DEMİR A., GEREK O. N., Fidan M., GÜLMEZOĞLU M. B., ERGİN S., EDİZKAN R., Koc M., BARKANA A., CALISIR C.  
PHYSICAL AND ENGINEERING SCIENCES IN MEDICINE, vol.47, no.3, pp.967-979, 2024 (SCI-Expanded)
- III. **Applications of Machine Learning Algorithms in Nitrogen Fertilizer Management of Triticale**  
GÜLMEZOĞLU N., KUTLU İ., GÜLMEZOĞLU M. B.  
Journal of Scientific and Industrial Research, vol.82, no.10, pp.1055-1063, 2023 (SCI-Expanded)
- IV. **Neural network representations for the inter- and intra-class common vector classifiers**  
EDİZKAN R., BARKANA A., Koc M., GÜLMEZOĞLU M. B., Ashames M. M., ERGİN S., Fidan M., DEMİR A., CALISIR C., GEREK O. N.  
Digital Signal Processing: A Review Journal, vol.142, 2023 (SCI-Expanded)
- V. **Necessary Conditions for Successful Application of Intra- and Inter-class Common Vector Classifiers**  
Koc M., ERGİN S., GÜLMEZOĞLU M. B., Fidan M., GEREK O. N., BARKANA A.  
Arabian Journal for Science and Engineering, vol.47, no.8, pp.10101-10113, 2022 (SCI-Expanded)
- VI. **Classifying Wheat Genotypes using Machine Learning Models for Single Kernel Characterization System Measurements**  
Kutlu İ., Gülmezoğlu M. B., Karaduman Y.  
JOURNAL OF SCIENTIFIC AND INDUSTRIAL RESEARCH, no.80, pp.985-991, 2021 (SCI-Expanded)
- VII. **Face Recognition by Using 2D Orthogonal Subspace Projections**  
ERGİN S., IŞIK Ş., GÜLMEZOĞLU M. B.  
TRAITEMENT DU SIGNAL, vol.38, no.1, pp.51-60, 2021 (SCI-Expanded)
- VIII. **Two Pseudo-Common Vectors for Pattern Recognition**  
KOÇ M., GÜLMEZOĞLU M. B., ERGİN S., EDİZKAN R., BARKANA A.  
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.45, no.12, pp.10621-10635, 2020 (SCI-Expanded)
- IX. **Use of gradient and normal vectors for face recognition**  
KOÇ M., ERGİN S., GÜLMEZOĞLU M. B., EDİZKAN R., BARKANA A.  
IET IMAGE PROCESSING, vol.14, no.10, pp.2121-2129, 2020 (SCI-Expanded)
- X. **Block-Based Noisy/Clean Classification of Images Using the Common Vector Approach**  
Kalyoncu H. B., ERGİN S., GÜLMEZOĞLU M. B.  
CIRCUITS SYSTEMS AND SIGNAL PROCESSING, vol.39, no.3, pp.1387-1418, 2020 (SCI-Expanded)
- XI. **A survey on ECG analysis**  
Berkaya S. K., UYSAL A. K., ŞORA GÜNAL E., ERGİN S., GÜNAL S., GÜLMEZOĞLU M. B.  
BIOMEDICAL SIGNAL PROCESSING AND CONTROL, vol.43, pp.216-235, 2018 (SCI-Expanded)
- XII. **A subspace based progressive coding method for speech compression**  
KESER S., GEREK Ö. N., SEKE E., GILLMEZOĞLU M. B.  
SPEECH COMMUNICATION, vol.94, pp.50-61, 2017 (SCI-Expanded)
- XIII. **On the realization of common matrix classifier using covariance tensors**  
ERGİN S., GEREK Ö. N., GÜLMEZOĞLU M. B., BARKANA A.  
DIGITAL SIGNAL PROCESSING, vol.41, pp.110-117, 2015 (SCI-Expanded)
- XIV. **Automatic writer identification from text line images**  
KIRLI O., GÜLMEZOĞLU M. B.  
INTERNATIONAL JOURNAL ON DOCUMENT ANALYSIS AND RECOGNITION, vol.15, no.2, pp.85-99, 2012 (SCI-

Expanded)

- XV. **Common vector approach and its combination with GMM for text-independent speaker recognition**  
Sadik S., GÜLMEZOĞLU M. B.  
EXPERT SYSTEMS WITH APPLICATIONS, vol.38, no.9, pp.11394-11400, 2011 (SCI-Expanded)
- XVI. **Use of center of gravity with the common vector approach in isolated word recognition**  
GÜLMEZOĞLU M. B., EDİZKAN R., ERGİN S., BARKANA A.  
EXPERT SYSTEMS WITH APPLICATIONS, vol.38, no.4, pp.3690-3696, 2011 (SCI-Expanded)
- XVII. **A new implementation of common matrix approach using third-order tensors for face recognition**  
ERGİN S., Cakir S., GEREK Ö. N., GÜLMEZOĞLU M. B.  
EXPERT SYSTEMS WITH APPLICATIONS, vol.38, no.4, pp.3246-3251, 2011 (SCI-Expanded)
- XVIII. **An approach for bearing fault detection in electrical motors**  
Gulmezoglu M. B., ERGİN S.  
EUROPEAN TRANSACTIONS ON ELECTRICAL POWER, vol.17, no.6, pp.628-641, 2007 (SCI-Expanded)
- XIX. **The common vector approach and its comparison with other subspace methods in case of sufficient data**  
Gulmezoglu M. B., Dzhafarov V., Edizkan R., Barkana A.  
COMPUTER SPEECH AND LANGUAGE, vol.21, no.2, pp.266-281, 2007 (SCI-Expanded)
- XX. **On feature extraction for spam e-mail detection**  
Gunal S., ERGİN S., Gulmezoglu M. B., Gerek O. N.  
MULTIMEDIA CONTENT REPRESENTATION, CLASSIFICATION AND SECURITY, vol.4105, pp.635-642, 2006 (SCI-Expanded)
- XXI. **Effect of the losses in the vocal tract on determination of the area function**  
Gulmezoglu M. B., Barkana A.  
BIO-MEDICAL MATERIALS AND ENGINEERING, vol.13, no.2, pp.159-166, 2003 (SCI-Expanded)
- XXII. **Robust Speech Recognition Using Affine Transform**  
ERGİN S., GÜLMEZOĞLU M. B., Atalay B.  
International Journal of Computational Intelligence Systems, vol.1, no.2, pp.271-273, 2003 (SCI-Expanded)
- XXIII. **The common vector approach and its relation to principal component analysis**  
Gulmezoglu M. B., Dzhafarov V., Barkana A.  
IEEE TRANSACTIONS ON SPEECH AND AUDIO PROCESSING, vol.9, no.6, pp.655-662, 2001 (SCI-Expanded)
- XXIV. **A novel approach to isolated word recognition**  
Gulmezoglu M. B., Dzhafarov V., Keskin M., Barkana A.  
IEEE TRANSACTIONS ON SPEECH AND AUDIO PROCESSING, vol.7, no.6, pp.620-628, 1999 (SCI-Expanded)
- XXV. **Effect of the signal measured from the glottis on determination of the vocal tract shape**  
Gulmezoglu M. B., Barkana A.  
ANNALS OF BIOMEDICAL ENGINEERING, vol.26, no.6, pp.1082-1090, 1998 (SCI-Expanded)

## Articles Published in Other Journals

- I. **A Novel Framework for Cardiac Arrhythmia Classification Based on Subspace Projection and Decision Tree**  
ERGİN S., KAPLAN BERKAYA S., UYSAL A. K., ŞORA GÜNAL E., GÜNAL S., GÜLMEZOĞLU M. B.  
Eskişehir Technical University Journal of Science and Technology A - Applied Sciences and Engineering, vol.21, no.2, pp.350-365, 2020 (Peer-Reviewed Journal)
- II. **Application of the common vector approach on identification of winter rapeseed (*Brassica napus* L.) cultivars and their yield characters**  
AYTAÇ Z., GÜLMEZOĞLU N., GÜLMEZOĞLU M. B.  
International Journal of Sustainable Agriculture Management and Informatics, vol.2, no.1, pp.66-78, 2016 (Peer-Reviewed Journal)
- III. **A NOVEL FRAMEWORK FOR PARTITION-BASED FACE RECOGNITION**

ERGİN S., GÜLMEZOĞLU M. B.

INTERNATIONAL JOURNAL OF INNOVATIVE COMPUTING INFORMATION AND CONTROL, vol.9, no.5, pp.1819-1834, 2013 (ESCI)

**IV. Detection of Stator Bearing and Rotor Faults in Induction Motors**

ERGİN S., Arzu U., GÜLMEZOĞLU M. B.

Procedia Engineering, vol.30, pp.1103-1109, 2012 (Peer-Reviewed Journal)

## Books

**I. Lineer Cebir: Teori ve Octave Uygulamaları**

GÜLMEZOĞLU M. B., KESKİN K.

Eskişehir Osmangazi Üniversitesi Basımevi, Eskişehir, 2021

## Papers Published in Refereed Scientific Meetings

**I. Classification of Triticale Cultivars Using Common Vector Approach and Support Vector Machine**

GÜLMEZOĞLU N., GÜLMEZOĞLU M. B.

2 ND INTERNATIONAL CONFERENCE ON FOOD, AGRICULTURE AND ANIMAL SCIENCES, Antalya, Turkey, 8 - 11 November 2019, pp.298-304

**II. Classification of Winter Rapeseed Cultivars and Their Yield Characters with the Common Vector Approach**

GÜLMEZOĞLU N., AYTAÇ Z., GÜLMEZOĞLU M. B.

7th International Conference on Information and Communication Technologies in Agriculture, Kavala, Greece, 17 - 20 September 2015, pp.713-719

**III. Some Approaches for Pattern Classification**

GÜLMEZOĞLU M. B.

International Conference on Chemical, Environmental and Biological Sciences, Dubai, United Arab Emirates, 18 - 19 March 2015

**IV. Classification of bread wheat varieties and their yield characters with the common vector approach**

GÜLMEZOĞLU M. B., GÜLMEZOĞLU N.

International Conference on Chemical, Environmental and Biological Sciences, 18 - 19 March 2015

**V. ECG Based Biometric Authentication Using Ensemble of Features**

ERGİN S., UYSAL A. K., ŞORA GÜNAL E., GÜNAL S., GÜLMEZOĞLU M. B.

9th Iberian Conference on Information Systems and Technologies (CISTI), Barcelona, Spain, 18 - 21 June 2014

**VI. Detection of Stator, Bearing and Rotor Faults in Induction Motors**

ERGİN S., Uzuntas A., GÜLMEZOĞLU M. B.

International Conference on Communication Technology and System Design, Coimbatore, India, 7 - 09 December 2011, vol.30, pp.1103-1109

**VII. Detection of Stator Bearing and Rotor Faults in induction motors by using DWT coefficients in CVA**

ERGİN S., Arzu U., GÜLMEZOĞLU M. B.

Int. Conf. on Communication Technology and System Design, 7 - 09 December 2011

**VIII. DWT Based Fault Diagnosis in Induction Motors by Using CVA**

ERGİN S., Serap T., GÜLMEZOĞLU M. B.

International Symposium on Innovations in Intelligent Systems and Applications, İstanbul, Turkey, 15 - 17 June 2011, pp.129-132

**IX. Stress Level Diagnosis for Automobile Drivers using Common Vector Approach**

ERGİN S., Dağ G., GÜLMEZOĞLU M. B.

6th International Advanced Technologies Symposium, Elazığ, Turkey, 16 - 18 May 2011, pp.356-359

**X. Classification of bread wheat varieties and their yield characters with the common vector approach**

Gulmezoglu N., GÜLMEZOĞLU M. B.

8th European-Federation-for-Information-Technology-in-Agriculture, Food and the Environment / 8th World Congress on Computers in Agriculture, Prague, Czech Republic, 11 - 14 July 2011, pp.38-43

- XI. **2D DWT Based Feature Extraction for Face Recognition**  
Çakır S., ERGİN S., GÜLMEZOĞLU M. B.  
International Science and Technology Conference, Famagusta, Cyprus (Kkct), 27 - 29 October 2010, pp.6-11
- XII. **Face recognition based on face partitions using Common Vector Approach**  
ERGİN S., GÜLMEZOĞLU M. B.  
3rd IEEE International Symposium on Control, Communications and Signal Processing (ISCCSP 2008), St Julians, Malta, 12 - 14 March 2008, pp.624-628
- XIII. **Endpoint detection of isolated words using center of gravity method**  
GÜLMEZOĞLU M. B., EDİZKAN R., ERGİN S., BARKANA A.  
IEEE 15th Signal Processing and Communications Applications Conference, Eskişehir, Turkey, 11 - 13 June 2007, pp.762-763
- XIV. **A two stage algorithm for face recognition: 2DPCA and within-class scatter minimization**  
Turhal U. C., Duysak A., GÜLMEZOĞLU M. B.  
4th IASTED International Conference on Signal Processing, Pattern Recognition and Applications, Innsbruck, Austria, 14 - 16 February 2007, pp.338-339
- XV. **Common Vector Approach for Fault Detection of Induction Motors**  
ERGİN S., GÜLMEZOĞLU M. B.  
International Conference on Modeling and Simulation, Konya, Turkey, 28 - 30 August 2006
- XVI. **Common Vector Approach for Handwritten Digit Recognition**  
Önder K., GÜLMEZOĞLU M. B.  
International Conference on Modeling and Simulation, Konya, Turkey, 28 - 30 August 2006, pp.637-641
- XVII. **Improvements on Common Vector Approach for Multi Class Problems**  
EDİZKAN R., GÜLMEZOĞLU M. B., ERGİN S., ATALAY B.  
13th European Signal Processing Conference, Antalya, Turkey, 4 - 08 September 2005, pp.2246-2249
- XVIII. **Improvements on Isolated Word Recognition Using Subspace Methods**  
GÜLMEZOĞLU M. B., EDİZKAN R., ERGİN S., Atalay B.  
13th European Signal Processing Conference, Antalya, Turkey, 4 - 08 September 2005, pp.317-320
- XIX. **Face Recognition Using Common Matrix Approach**  
TURHAL Ü. Ç., GÜLMEZOĞLU M. B., Atalay B.  
13th European Signal Processing Conference, Antalya, Turkey, 4 - 08 September 2005, pp.369-372
- XX. **Use of Improved Feature Vectors in Spectral Subtraction Method**  
EMRAH B., ERGİN S., GÜLMEZOĞLU M. B.  
1st Int. Conference on Informatics, Çeşme, Turkey, 1 - 04 September 2004
- XXI. **Use of Improved Feature Vectors in Affine Transformation for Robust Speech Recognition**  
ERGİN S., GÜLMEZOĞLU M. B., ATALAY B.  
1st Int. Conference on Informatics, Çeşme, Turkey, 1 - 04 September 2004
- XXII. **Common Vector Approach in Multi Class Problems and Its Relation to Fisher s Linear Discriminant Analysis**  
GÜLMEZOĞLU M. B., VAKIF D., EDİZKAN R., ATALAY B.  
Second International Conference on Electrical and Electronics Engineering, Bursa, Turkey, 7 - 11 November 2001, pp.117-121
- XXIII. **The Common Vector Approach in Image Recognition**  
OLCAY Ö. Ç., GÜLMEZOĞLU M. B., DZHAFAROV V.  
Brain Machine'2000 Workshop, Ankara, Turkey, 20 - 22 December 2000, pp.45-50
- XXIV. **Text Dependent speaker recognition by Using Gram Schmidt Orthogonalization Method**  
GÜLMEZOĞLU M. B., BARKANA A.  
IASTED International Conference on Signal processing ve Communications, KANARYA ADALARI, Spain, 11 - 13 February 1998, pp.438-440

**XXV. Isolated Word Recognition with Neural Network which Extacts Personal Differences**

GÜLMEZOĞLU M. B., KESKİN M., BARKANA A.

Eleventh International Symposium on Computer ve Information Sciences, Ankara, Turkey, 6 - 08 November 1996, pp.527-537

**XXVI. Effect of the Losses in the Vocal Tract**

GÜLMEZOĞLU M. B., BARKANA A.

8. Mediterranean Electrotechnical Conference, Bari, Italy, 13 - 16 May 1996, pp.1733-1736

**XXVII. Isolated Word Recognition by Extracting Personal Differences**

KESKİN M., GÜLMEZOĞLU M. B., PARLAKTUNA O., BARKANA A.

The International Conference on Signal Processing Applications ve Technology, BOSTON, United States Of America, 24 - 26 October 1995, pp.1989-1992

## Supported Projects

GÜLMEZOĞLU M. B., Project Supported by Higher Education Institutions, Asenkron Motorlardan Alınan Titreşim Sinyalleri Kullanılarak Arıza Tespiti, 2017 - 2018

Gülmezoğlu M. B., Ergin S., Project Supported by Higher Education Institutions, Fizyolojik Sinyaller Kullanılarak Sürücülerin Sağlık Durumlarının İzlenmesi, 2012 - 2015

Gülmezoğlu M. B., Edizkan R., Ergin S., Project Supported by Higher Education Institutions, Ayrık Kelime Tanıma Oranlarının İyileştirilmesi, 2003 - 2004

Edizkan R., Barkana A., Gülmezoğlu M. B., Künkçü Ü., Ecevit Künkçü Ş., TUBITAK Project, Sınırlı Sayıda Kelimenin Bilgisayar Tarafından Tanınması, 1993 - 1995

## Metrics

Publication: 58

Citation (WoS): 318

Citation (Scopus): 649

H-Index (WoS): 8

H-Index (Scopus): 8

## Non Academic Experience

ESKİŞEHİR OSMANGAZİ ÜNİVERSİTESİ, ÖĞRETİM ÜYESİ

ANADOLU ÜNİVERSİTESİ, ÖĞRETİM GÖREVLİSİ

ANADOLU ÜNİVERSİTESİ, ARAŞTIRMA GÖREVLİSİ