

Prof. UMUT ORHAN

Personal Information

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International Researcher IDs

ScholarID: eCnqlbYAAAAJ

ORCID: 0000-0003-1882-6567

Publons / Web Of Science ResearcherID: E-5603-2018

ScopusID: 25121685900

Yoksis Researcher ID: 9849

Education Information

2007 - 2011	Doctorate, Bülent Ecevit Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik Elektronik Mühendisliği, Turkey
2005 - 2007	Postgraduate, Gaziosman Paşa Üniversitesi, Fen Bilimleri Enstitüsü, Matematik, Turkey
1995 - 2000	Undergraduate, Karadeniz Technical University, Mühendislik Mimarlık Fakültesi, Bilgisayar Mühendisliği, Turkey

Foreign Languages

English, C1 Advanced

Dissertations

2011	EEG İşaretlerinden Epilepsi Hastalığının Teşhisi için Yeni Yaklaşımlar, Bülent Ecevit Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği Abd, Doctorate
2007	Bulanık Mantık ile Zarsız Tavlamanın Bilgisayar Simülasyonu, Gaziosman Paşa Üniversitesi, Fen Bilimleri Enstitüsü, Matematik, Postgraduate

Research Areas

Formal Languages, Artificial Intelligence, Computer Learning and Pattern Recognition, Pattern Recognition and Image Processing, Neural Networks

Academic Titles / Tasks

2022 - Continues	Professor, Cukurova University, Mühendislik Fakültesi, Bilgisayar Mühendisliği
2016 - 2022	Associate Professor, Cukurova University, Mühendislik Fakültesi, Bilgisayar Mühendisliği
2013 - 2016	Assistant Professor, Cukurova University, Mühendislik Fakültesi, Bilgisayar Mühendisliği
2011 - 2013	Assistant Professor, Gaziosman Paşa Üniversitesi, Mühendislik Ve Doğa Bilimleri Fakültesi, Elektrik Elektronik Mühendisliği
2003 - 2011	Lecturer, Gaziosman Paşa Üniversitesi, Tokat Meslek Yüksekokulu, Teknik Programlar Bölümü

Academic and Administrative Experience

2023 - Continues	Head of Department, Cukurova University, Mühendislik Fakültesi, Bilgisayar Mühendisliği
2011 - 2013	Head of Department, Gaziosman Paşa Üniversitesi, Mühendislik Ve Doğa Bilimleri Fakültesi, Elektrik-Elektronik Mühendisliği

Courses

2014 - 2015	Intelligent Optimization Techniques, Postgraduate
2015 - 2016	Automata Theory, Undergraduate
2015 - 2016	Fuzzy Logic, Postgraduate
2014 - 2015	Cluster Analysis, Doctorate
2014 - 2015	Operating Systems, Undergraduate
2015 - 2016	Matlab Programming, Undergraduate
2015 - 2016	Graph Theory, Doctorate

Advising Theses

2020	Orhan U., Doctorate, E.TURAN(Student), Automatic synset detection from Turkish dictionary using confidence indexing
2020	Orhan U., Doctorate, E.ARSLAN(Student), Learning word-vector quantization: A study in morphological disambiguation of turkish
2019	Orhan U., Doctorate, Ç.NEFTALİ(Student), A semantic vector space model using Euclidean distance based relatedness
2018	Orhan U., Postgraduate, E.MOHAMMED(Student), Determination of the heart beats on single arm ECG signals by using computational methods
2017	Orhan U., Postgraduate, M.KHAN(Student), An automated computerized system for soil texture analysis by using laser and LDR sensors
2016	Orhan U., Postgraduate, E.KILINÇ(Student), Estimation of sand ratio at soil by LDR sensors and intelligent algorithms
2016	Orhan U., Postgraduate, A.TOLGA(Student), Stere calculation of trees laden vehicles by image processing methods
2013	Hekim M., Orhan U., Postgraduate, K.Adem(Student), Tetra Brik Aseptik Kartonlardaki Şerit Dikişlerinin Sayısal Görüntüleme Tabanlı Kalite Kontrolü
2013	Hekim M., Orhan U., Postgraduate, O.Cömert(Student), Sayısal Görüntüleme Destekli Red Chief Elma Rekolte Tahmini

Jury Memberships

January 2015	Post Graduate, Noise robust speech recognition using parallel model compensation and voice activity detection methods, Çukurova Üniversitesi
May 2014	Post Graduate, Podcasting in pre-service language teacher education: A constructivist perspective, Çukurova Üniversitesi
January 2014	Doctorate, Biyolojik Nöral Ağlarda Latans Dinamiklerinin Analizi, Bülent Ecevit Üniversitesi

Published journal articles indexed by SCI, SSCI, and AHCI

1. Intent Detection Using Contextualized Deep SemSpace

ORHAN U., Tosun E. G., Ozkaya O.

ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.48, no.2, pp.2009-2020, 2023 (SCI-Expanded)

- II. **Ultrasound Penetration-Based Digital Soil Texture Analyzer**
ORHAN U., Kilinc E., ALBAYRAK F., AYDIN A., ALKAN TORUN A.
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.47, no.8, pp.10751-10767, 2022 (SCI-Expanded)
- III. **Confidence Indexing of Automated Detected Synsets: A Case Study on Contemporary Turkish Dictionary**
Turan E., ORHAN U.
ACM TRANSACTIONS ON ASIAN AND LOW-RESOURCE LANGUAGE INFORMATION PROCESSING, vol.21, no.1, 2022 (SCI-Expanded)
- IV. **A novel embedding approach to learn word vectors by weighting semantic relations: SemSpace**
ORHAN U., Tulu C. N.
EXPERT SYSTEMS WITH APPLICATIONS, vol.180, 2021 (SCI-Expanded)
- V. **Automatic Short Answer Grading With SemSpace Sense Vectors and MaLSTM**
Tulu C. N., Ozkaya O., ORHAN U.
IEEE ACCESS, vol.9, pp.19270-19280, 2021 (SCI-Expanded)
- VI. **Learning Word-vector Quantization: A Case Study in Morphological Disambiguation**
ORHAN U., ARSLAN E.
ACM TRANSACTIONS ON ASIAN AND LOW-RESOURCE LANGUAGE INFORMATION PROCESSING, vol.19, no.5, 2020 (SCI-Expanded)
- VII. **Heart Rate Detection on Single-Arm ECG by Using Dual-Median Approach**
ORHAN U., AYDIN A.
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.45, no.8, pp.6573-6581, 2020 (SCI-Expanded)
- VIII. **Estimating soil texture with laser-guided Bouyoucos**
ORHAN U., Kilinc E.
AUTOMATIKA, vol.61, no.1, pp.1-10, 2020 (SCI-Expanded)
- IX. **Time series adapted supervised fuzzy discretization: an application to ECG signals**
ORHAN U.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.24, no.5, pp.3987-3998, 2016 (SCI-Expanded)
- X. **Image processing based quality control of the impermeable seams in multilayered aseptic packages**
Adem K., ORHAN U., Hekim M.
EXPERT SYSTEMS WITH APPLICATIONS, vol.42, no.7, pp.3785-3789, 2015 (SCI-Expanded)
- XI. **Mechanical fault detection in permanent magnet synchronous motors using equal width discretization-based probability distribution and a neural network model**
Akar M., Hekim M., ORHAN U.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.23, no.3, pp.813-823, 2015 (SCI-Expanded)
- XII. **Real-time CHF detection from ECG signals using a novel discretization method**
Orhan U.
COMPUTERS IN BIOLOGY AND MEDICINE, vol.43, no.10, pp.1556-1562, 2013 (SCI-Expanded)
- XIII. **Epileptic Seizure Detection Using Probability Distribution Based On Equal Frequency Discretization**
Orhan U., Hekim M., Ozer M.
JOURNAL OF MEDICAL SYSTEMS, vol.36, no.4, pp.2219-2224, 2012 (SCI-Expanded)
- XIV. **EEG signals classification using the K-means clustering and a multilayer perceptron neural network model**
Orhan U., Hekim M., Ozer M.
EXPERT SYSTEMS WITH APPLICATIONS, vol.38, no.10, pp.13475-13481, 2011 (SCI-Expanded)
- XV. **EPILEPTIC SEIZURE DETECTION USING ARTIFICIAL NEURAL NETWORK AND A NEW FEATURE EXTRACTION APPROACH BASED ON EQUAL WIDTH DISCRETIZATION**
Orhan U., Hekim M., Ozer M.

Articles Published in Other Journals

- I. **A Comparison of Graph Centrality Algorithms For Semantic Distance**
TURAN E., Arslan E., TL L Ç. N., ORHAN U.
Lapseki Meslek Yksekokulu Uygulamalı Arařtırmalar Dergisi, vol.1, no.2, pp.61-70, 2020 (Peer-Reviewed Journal)
- II. **Identification of OOV words in Turkish texts**
ARSLAN E., ORHAN U.
Gaziosmanpařa Bilimsel Arařtırma Dergisi, vol.8, no.2, pp.35-48, 2019 (Peer-Reviewed Journal)
- III. **Morphological Disambiguation of Turkish with Free-order Co-occurrence Statistics**
ARSLAN E., ORHAN U., TAHİROĐLU B. T.
Gmřhane niversitesi Fen Bilimleri Enstits Dergisi, 2018 (Peer-Reviewed Journal)
- IV. **Semantic Relation's Weight Determination on a Graph Based WordNet**
TL L Ç. N., ORHAN U., TURAN E.
Gmřhane niversitesi Fen Bilimleri Enstits Dergisi, 2018 (Peer-Reviewed Journal)
- V. **A Novel Supervised Learning Based on Density**
ORHAN U., Hekim M.
Journal of New Theory, vol.1, pp.17-23, 2014 (Peer-Reviewed Journal)
- VI. **Detection of Arrhythmia from ECG Signals by a Robust Approach to Outliers**
ORHAN U.
PRZEGLAD ELEKTROTECHNICZNY, vol.7, pp.81-85, 2013 (Scopus)
- VII. **Least Squares Approach to Locally Weighted Naive Bayes Method**
ORHAN U., Adem K., Cmert O.
Journal of New Results in Science, vol.1, pp.71-78, 2012 (Peer-Reviewed Journal)
- VIII. **Bulanık C-Means Kmeleme Yntemine Çıkarımlı Yaklařım**
Hekim M., ORHAN U.
İT-D Dergisi, vol.10, no.1, pp.11-17, 2011 (Peer-Reviewed Journal)
- IX. **Supervised Gravitational Clustering with Bipolar Fuzzification**
ORHAN U., Hekim M., İBRİKÇİ T.
Lecture Notes in Artificial Intelligence, vol.5227, pp.667-674, 2008 (Scopus)
- X. **Gravitational Fuzzy Clustering**
ORHAN U., İBRİKÇİ T.
Lecture Notes in Artificial Intelligence, pp.524-531, 2008 (Scopus)

Refereed Congress / Symposium Publications in Proceedings

- I. **Soil Texture Prediction With Laser Guided Bouyoucos and Support Vector Regression**
KILINÇ E., ALBAYRAK F., ORHAN U.
2020 Innovations in Intelligent Systems and Applications Conference (ASYU), Istanbul, Turkey, Turkey, 15 - 17 October 2020
- II. **Using Graph Connectivity Measures for Distance in Semantic Networks**
TURAN E., ORHAN U., TL L Ç. N.
3rd International Conference on Computational Mathematics and Engineering Sciences, 4 - 06 May 2018
- III. **Morphological Disambiguation of Turkish with Free-Order Co-Occurrence Statistics**
ARSLAN E., ORHAN U., TAHİROĐLU B. T.
3rd International Conference on Computational Mathematics and Engineering Sciences, 4 - 06 May 2018
- IV. **Determination of Semantic Relations Weight's on WordNet**

TÜLÜ Ç. N., ORHAN U., TURAN E.

3rd International Conference on Computational Mathematics and Engineering Sciences, 4 - 06 May 2018

- V. **Building a Turkish Semantic Network and Connecting Synonym Senses Bidirectionally**
Turan E., ORHAN U.
IEEE (SMC) International Conference on Innovations in Intelligent Systems and Applications (INISTA),
Thessaloniki, Greece, 3 - 05 July 2018
- VI. **Using Graphs in Construction of a Lemmatization Model for Turkish**
ARSLAN E., ORHAN U.
International Mediterranean Science and Engineering Congress, Adana, Turkey, 25 - 27 October 2017
- VII. **PageRank based Semantic Similarity Measure on a Graph based Turkish WordNet**
Tulu C., ORHAN U.
2017 International Conference on Computer Science and Engineering (UBMK), Antalya, Turkey, 5 - 08 October
2017, pp.468-473
- VIII. **Stere calculation of wood laden vehicles using image processing methods**
YELTEKİN A. T., ORHAN U.
International Mediterranean Science and Engineering Congress, 26 - 28 October 2016
- IX. **Estimation of sand ratio in soil by LDR sensors and linear regression**
Kılınç E., ORHAN U.
1st International Mediterranean Science and Engineering Congress, Adana, Turkey, 26 - 28 October 2016, pp.1335-
1342
- X. **Graph-based Lemmatization of Turkish Words by Using Morphological Similarity**
Arslan E., ORHAN U.
International Symposium on Innovations in Intelligent Systems and Applications (INISTA), Sinaia, Romania, 2 - 05
August 2016
- XI. **Topraktaki Kum Oranının Bilgisayar Destekli Tespiti**
GÖK H., ORHAN U.
23. Sinyal İşleme ve İletişim Uygulamaları Kurultayı, Turkey, 16 - 19 May 2015
- XII. **Computer Aided Determination of Proportion of Sand in a Soil**
Gok H., ORHAN U.
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015,
pp.1276-1279
- XIII. **Sayısal Görüntüleme Destekli Meyve Rekolte Tahmini**
Cömert O., ORHAN U.
4. Ulusal Mekatronik Mühendisliği Öğrenci Kongresi, Ankara, Turkey, 08 June 2013, pp.74-81
- XIV. **Tetra Brik Aseptik Kartonlarda Enine Dikişlerin Görüntü İşleme Tabanlı Kalite Kontrolü**
Adem K., ORHAN U.
21. Sinyal İşleme ve İletişim Uygulamaları Kurultayı, Girne, Cyprus (Kkct), 24 - 26 April 2013, pp.1-4
- XV. **Imaging Processing Based Quality Control of Transversal Seams in Tetra Brik Aseptic Cartons**
Adem K., ORHAN U.
21st Signal Processing and Communications Applications Conference (SIU), CYPRUS, 24 - 26 April 2013
- XVI. **Naive Bayes Yönteminde Olasılık Çarpanlarının Etkileri**
ORHAN U., Adem K.
Elektrik - Elektronik - Bilgisayar Mühendisliği Sempozyumu ve Fuarı, Bursa, Turkey, 30 November 2012, pp.1
- XVII. **Classifying Discrete Interval Densities of EEG Signals by using DWT and SVM**
ORHAN U., Gürbüz E.
International Symposium on Innovations in Intelligent Systems and Applications, Trabzon, Turkey, 2 - 04 July 2012,
pp.1-4
- XVIII. **Epilepsy Diagnosis Using Probability Density Functions of EEG Signals**
ORHAN U., Hekim M., Özer M., Provaznik I.
International Symposium on Innovations in Intelligent Systems and Applications, İstanbul, Turkey, 15 - 18 June
2011, pp.626-630

- XIX. **Kümelemeye Dayalı Olasılık Dağılımı ve Yapay Sinir Ağı Kullanarak EEG İşaretlerinden Epilepsi Teşhisi**
ORHAN U., Hekim M., Özer M.
Akıllı Sistemlerde Yenilikler ve Uygulamaları Sempozyumu, Kayseri, Turkey, 21 - 24 June 2010, pp.1-4
- XX. **EEG İşaretlerinin Çok-katmanlı Algılayıcı Yapay Sinir Ağı Modeli ile Sınıflandırılmasında Ayrıklaştırma Yaklaşımı**
ORHAN U., Hekim M., Özer M.
Biyomedikal Mühendisliği Ulusal Sempozyumu, Antalya, Turkey, 21 - 24 April 2010, pp.1-4
- XXI. **Gravitational Approach to Supervised Clustering for Bi-class Datasets**
ORHAN U., Hekim M.
International Conference on Electrical And Electronics Engineering, Bursa, Turkey, 5 - 08 October 2009, vol.2, pp.398-400
- XXII. **Mass Action Based Data Clustering Method And Its Weighted Fuzzification**
ORHAN U., Hekim M.
International Conference on Electrical And Electronics Engineering, Bursa, Turkey, 5 - 09 December 2007, pp.386-390
- XXIII. **Prediction Of Disordered Regions Of Proteins With New N-Pieces Naïve Bayes Algorithm**
ORHAN U., İBRİKÇİ T., Ersöz İ.
Artificial Neural Networks In Engineering, St. Louis, United States Of America, 11 - 14 November 2007, pp.43-48
- XXIV. **A Validity Measure for a New Hybrid Data Clustering**
Hekim M., ORHAN U.
International Symposium on Innovations in Intelligent Systems and Applications, İstanbul, Turkey, 20 - 23 June 2007, pp.70-74
- XXV. **A Model Transforming A Problem Based on Chance Problem into Perfect Information and Its Fuzzy Application**
Çağman N., ORHAN U.
International Symposium on Innovations in Intelligent Systems and Applications, İstanbul, Turkey, 20 - 23 June 2007, pp.50-54
- XXVI. **Veri Kümeleme Üzerine Hibrit Yaklaşım**
Hekim M., ORHAN U., Durusoy G.
Elektrik - Elektronik - Bilgisayar Mühendisliği Sempozyumu ve Fuarı, İstanbul, Turkey, 6 - 10 December 2006, pp.41-45

Supported Projects

2024 - Continues	Alfa Feto Protein Pozitif Hepatosellüler Karsinom Hastalarında Tasarlanan Gen Panellerinde Somatik Mutasyon Taraması ve Yapay Zeka Algoritmaları ile Diagnostik Model Geliştirilmesi, Project Supported by Higher Education Institutions
2018 - 2020	Dijital Bir Toprak Tekstür Analizörünün Araştırılması ve Geliştirilmesi, TUBITAK Project
2015 - 2020	Learning Word-Vector Quantization: A Study In Morphological Disambiguation of Turkish, Project Supported by Higher Education Institutions
2016 - 2019	Ağırlıklı Çizgeler ile Canlı Türkçe Sözlük Ağı Tasarımı, TUBITAK Project
2015 - 2019	Toprak tekstür analizörü, Project Supported by Higher Education Institutions
2017 - 2018	Kümeleme Yönteminin Metalik Madenlerde Kullanılabilirliğinin Araştırılması, Project Supported by Higher Education Institutions
2015 - 2018	OTOMATİK ELEKTROŞOK BİLEKLİK, Project Supported by Higher Education Institutions
2017 - 2017	Senkronize sensörler ve hesaplamalı bir yöntemle toprak tekstür analizi, Project Supported by Higher Education Institutions
2015 - 2017	Bilekten ölçülen EKG işaretleriyle geleneksel EKG ölçümlerinin kestirimi, Project Supported by Higher Education Institutions

2015 - 2017	PCT - Automated electroshock wristband, Project Supported by Higher Education Institutions
2016 - 2016	Toprak analizörü bilgisayar destek sistemi, Project Supported by Higher Education Institutions
2016 - 2016	Ağaç yüklü araçların görüntü işleme destekli ster hesabı, Project Supported by Higher Education Institutions
2014 - 2015	Cam şişedeki sütün son kullanım süresini tespit eden buzdolabı, Project Supported by Higher Education Institutions
2014 - 2015	Akıllı Algoritmalar Kullanılarak Toprak Bünyesinin Tahmin Edilmesi, Project Supported by Higher Education Institutions
2007 - 2007	Olasılık Temelli Problemi Yetkin Bilgiye Dönüştüren Matematiksel Model ve Bilgisayar Simülasyonu, TUBITAK Project
2006 - 2007	Teknoloji Destekli Meslek Edindirme Kursları, Project Supported by Other Official Institutions
2005 - 2006	Aktif İşgücü Eğitimi Kurs Programı, Project Supported by Other Official Institutions

Patent

2022	Orhan U., Toprak Tekstür Analizörü, Patent, CHAPTER G Physics, The Invention Registration Number: TR2015 10455 B , Standard Registration, 2022
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Memberships / Tasks in Scientific Organizations

2014 - Continues	Association for Computing Machinery (ACM), Member
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Scientific Refereeing

January 2017	Pattern Recognition, SCI Journal
January 2017	IEEE Journal of Biomedical and Health Informatics, SCI Journal
August 2015	IEEE Journal of Biomedical and Health Informatics, National Scientific Refreed Journal
June 2015	TUBITAK Project
July 2014	Applied Soft Computing, National Scientific Refreed Journal
June 2013	Computers in Biology and Medicine, National Scientific Refreed Journal
February 2013	Journal of the Faculty of Engineering and Architecture of Gazi University, National Scientific Refreed Journal
April 2011	Digital Signal Processing, National Scientific Refreed Journal

Metrics

Publication: 53
Citation (WoS): 468
Citation (Scopus): 598
H-Index (WoS): 6
H-Index (Scopus): 7

Congress and Symposium Activities

2016	IMSEC 2016, Attendee, Adana, Turkey
2012	INISTA 2012, Attendee, Trabzon, Turkey
2010	Biyomedikal Ulusal Toplantısı 2010, Attendee, Antalya, Turkey

- 2008 Tokat İlindeki Fen Bilimleri ve Matematik Öğretmenlerini Bilim Danışmanlığı ve Eğitimi Yönünden Destekleme Çalıştayı, Attendee, Tokat, Turkey
- 2008 Bilgisayar, Biyoloji, Fizik, Kimya ve Matematik Öğretmenlerini Bilim Danışmanlığı ve Eğitimi Yönünden Destekleme Çalıştayı, Attendee, Tokat, Turkey