

## Asst. Prof. HASAN ULUTAŞ

### Personal Information

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### International Researcher IDs

ScholarID: AwRd6CYAAAAJ

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Publons / Web Of Science ResearcherID: JKT-2129-2023

Yoksis Researcher ID: 103971

### Education Information

Doctorate, Erciyes University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (Dr), Turkey 2015 - 2023

Postgraduate, Erciyes University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (YI) (Tezli), Turkey 2012 - 2015

Undergraduate, Erciyes University, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, Turkey 2007 - 2012

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, Domates hastalıklarının sınıflandırılması için makine öğrenmesi ve derin öğrenme temelli yeni yaklaşımlar, Erciyes University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği, 2023

Postgraduate, Aktif ve pasif RFID'ler kullanılarak hastanelerde yenidoğan bebekler için güvenlik sistemi, Erciyes University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (YI) (Tezli), 2015

### Research Areas

Computer Vision, Computer Learning, Pattern Recognition and Image Processing, Neural Networks, Software Engineering

### Academic Titles / Tasks

Assistant Professor, Yozgat Bozok University, Mühendislik-Mimarlık Fakültesi, Bilgisayar Mühendisliği, 2023 - Continues

Research Assistant, Yozgat Bozok University, Mühendislik-Mimarlık Fakültesi, Bilgisayar Mühendisliği, 2014 - 2023

### Courses

BMH121 Bilgisayar Programlama II, Undergraduate, 2023 - 2024

HIR708 WEB TASARIMI, Undergraduate, 2023 - 2024

BMH481 Bitirme Projesi, Undergraduate, 2023 - 2024

BMH733 MODERN JAVASCRIPT UYGULAMALARI I, Undergraduate, 2023 - 2024

Bilgisayar Mühendisliği Tasarımı, Undergraduate, 2023 - 2024

Bilgisayar Programlama I, Undergraduate, 2023 - 2024

## Jury Memberships

Post Graduate, Post Graduate, Kayseri Üniversitesi, April, 2024

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

- I. **An Innovative Hybrid Deep Learning Approach for Enhanced Electrical Power Prediction Using Meteorological Data: GGWO-IEMD/SCPDAE-LSTM-SDPAM/RS Model**  
Özbay Karakuş M., Şahin M. E., Ulutaş H.  
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.0, pp.1-24, 2024 (SCI-Expanded)
- II. **Real time hybrid medical image encryption algorithm combining memristor-based chaos with DNA coding**  
Demirkol A. Ş., Şahin M. E., Karakaya B., Ulutaş H., Ascoli A., Tetzlaff R.  
CHAOS, SOLITONS AND FRACTALS, vol.183, pp.1-14, 2024 (SCI-Expanded)
- III. **Sugar beet farming goes high-tech: a method for automated weed detection using machine learning and deep learning in precision agriculture**  
ORTATAŞ F. N., Ozkaya U., ŞAHİN M. E., ULUTAŞ H.  
Neural Computing and Applications, vol.36, no.9, pp.4603-4622, 2024 (SCI-Expanded)
- IV. **Detecting diabetes in an ensemble model using a unique PSO-GWO hybrid approach to hyperparameter optimization**  
ULUTAŞ H., Günay R. B., ŞAHİN M. E.  
Neural Computing and Applications, 2024 (SCI-Expanded)
- V. **End-to end decision support system for sleep apnea detection and Apnea-Hypopnea Index calculation using hybrid feature vector and Machine learning**  
ARSLAN R. S., ULUTAŞ H., KÖKSAL A. S., BAKIR M., Çiftçi B.  
Biocybernetics and Biomedical Engineering, vol.43, no.4, pp.684-699, 2023 (SCI-Expanded)
- VI. **Classification of cucumber leaf diseases on images using innovative ensembles of deep neural networks**  
ULUTAŞ H., Emin Sahin M.  
Journal of Electronic Imaging, vol.32, no.5, 2023 (SCI-Expanded)
- VII. **Tree-Based Machine Learning Techniques for Automated Human Sleep Stage Classification**  
ARSLAN R. S., ULUTAŞ H., KÖKSAL A. S., BAKIR M., Çiftçi B.  
Traitement du Signal, vol.40, no.4, pp.1385-1400, 2023 (SCI-Expanded)
- VIII. **Application of a novel deep learning technique using CT images for COVID-19 diagnosis on embedded systems**  
ULUTAŞ H., ŞAHİN M., Karakus M. O.  
Alexandria Engineering Journal, vol.74, pp.345-358, 2023 (SCI-Expanded)
- IX. **Detection and classification of COVID-19 by using faster R-CNN and mask R-CNN on CT images**  
ŞAHİN M., ULUTAŞ H., Yuce E., ERKOÇ M. F.  
Neural Computing and Applications, vol.35, no.18, pp.13597-13611, 2023 (SCI-Expanded)
- X. **Sensitive deep learning application on sleep stage scoring by using all PSG data**  
ARSLAN R. S., ULUTAŞ H., KÖKSAL A. S., BAKIR M., Çiftçi B.  
NEURAL COMPUTING & APPLICATIONS, vol.35, no.10, pp.7495-7508, 2023 (SCI-Expanded)
- XI. **Design of Efficient Methods for the Detection of Tomato Leaf Disease Utilizing Proposed Ensemble**

### **CNN Model**

Ulutaş H., Aslantaş V.

Electronics (Switzerland), vol.12, no.4, 2023 (SCI-Expanded)

XII. **A Fast and Accurate Method for Classifying Tomato Plant Health Status Using Machine Learning and Image Processing**

ULUTAŞ H., ASLANTAŞ V.

Elektronika ir Elektrotehnika, vol.29, no.2, pp.54-68, 2023 (SCI-Expanded)

XIII. **Automated sleep scoring system using multi-channel data and machine learning**

Arslan R. S., Ulutaş H., Köksal A. S., Bakır M., Çiftci B.

COMPUTERS IN BIOLOGY AND MEDICINE, vol.146, 2022 (SCI-Expanded)

XIV. **Highly sensitive metamaterial-based microwave sensor for the application of milk and dairy products**

Abdulkarim Y. I., BAKIR M., Yaşar İ., ULUTAŞ H., Karaaslan M., Alkurt F. Ö., Sabah C., Dong J.

Applied Optics, vol.61, no.8, pp.1972-1981, 2022 (SCI-Expanded)

### **Articles Published in Other Journals**

I. **Image Encryption Implementation by Using Memristor Based Chaotic Systems and DNA Coding**

Candan C., Ulutaş H.

Uluslararası Mühendislik Araştırma ve Geliştirme Dergisi, vol.15, no.3, pp.309-317, 2023 (Peer-Reviewed Journal)

II. **Hassas Arıcılıkta Kullanılması Amacıyla Elektronik Veri Toplama Özellikli Kovan Sisteminin Geliştirilmesi**

Yıldız A. K., Ulutaş H., Altın C.

Bozok Tarım ve Doğa Bilimleri Dergisi, vol.1, no.2, pp.134-142, 2022 (Peer-Reviewed Journal)

III. **A deep learning approach for detecting pneumonia in chest X-rays**

Şahin M. E., Ulutaş H., Yüce E.

Avrupa Bilim ve Teknoloji Dergisi, no.28, pp.562-567, 2021 (Peer-Reviewed Journal)

IV. **Internet of Things Technology Based Agricultural Spraying Drone Design for Remote Farming Applications**

Altın C., Ulutaş H., Orhan E., Er O., Akdoğan V.

Celal Bayar Üniversitesi Fen Bilimleri Dergisi, vol.17, no.3, pp.253-260, 2021 (Peer-Reviewed Journal)

V. **Development and Application of RFID Security System for Newborns in Hospitals**

ULUTAŞ H., ASLANTAŞ V., AKBULUT H.

Electronic Letters on Science Engineering, vol.13, no.3, pp.17-30, 2017 (Peer-Reviewed Journal)

VI. **Visible Image Watermarking Based on Image Fusion with Shearlet Transform Using Genetic Algorithm**

AKBULUT H., ASLANTAŞ V., ULUTAŞ H.

Electronic Letters on Science Engineering, vol.13, no.3, pp.1-9, 2017 (Peer-Reviewed Journal)

VII. **Multi-Focus Image Fusion Based on Shearlet Transform Using Genetic Algorithm. Electronic Letters on Science Engineering**

AKBULUT H., ASLANTAŞ V., ULUTAŞ H.

Electronic Letters on Science Engineering, vol.13, no.3, pp.10-16, 2017 (Peer-Reviewed Journal)

### **Refereed Congress / Symposium Publications in Proceedings**

I. **A New Approach to Determine the Milk Lines of Silage Corn Using Image Processing Techniques**

Şahin M. E., Ulutaş H., Ortataş F. N.

8. Uluslararası Bilgisayar Bilimleri ve Mühendisliği Konferansı (UBMK 2023), Burdur, Turkey, 13 - 15 September 2023

- II. **A Novel Method of Obstacle Detection Using Stereo Vision for Unmanned Systems**  
Ortataş F. N., Şahin M. E., Ulutaş H., Yakut U., Koç Y.  
2023 11-th International Scientific Conference COMPUTER SCIENCE, Sofija, Bulgaria, 18 - 20 September 2023, pp.1-4
- III. **House Price Prediction Using Ensemble Learning Techniques**  
ULUTAŞ H., ŞAHİN M. E.  
2023: International Conference on Recent and Innovative Results in Engineering and Technology, Konya, Turkey, 16 - 18 August 2023, pp.103-108
- IV. **Autonomous Mapping and Spraying in Precision Agriculture using Unmanned Ground Vehicles**  
ORTATAŞ F. N., ULUTAŞ H., ŞAHİN M. E., Ciftci F.  
2023 Innovations in Intelligent Systems and Applications Conference, ASYU 2023, Sivas, Turkey, 11 - 13 October 2023
- V. **Multi-Exposure Image Fusion Using Grey Wolf Optimization Algorithm**  
AKBULUT H., ASLANTAŞ V., ULUTAŞ H.  
Nazim Hüseyinli-65 Uluslararası İlimi Araştırmalar Kongresi, Baku, Azerbaijan, 30 April 2021, pp.107-108
- VI. **Ateş Böceği Optimizasyon Algoritması Kullanarak Blok Seçmeye Dayalı Çoklu-Odaklı Görüntü Birleştirme**  
AKBULUT H., ASLANTAŞ V., ULUTAŞ H.  
3rd International Congress on Vocational and Technical Sciences (UMTEB-3), 21 - 22 June 2018
- VII. **Bozkurt Optimizasyon Algoritması Kullanarak Shearlet Dönüşümü İle Görüntü Kaynaştırma Tabanlı Görünür Görüntü Damgalama**  
AKBULUT H., ASLANTAŞ V., ULUTAŞ H.  
3rd International Congress on Vocational and Technical Sciences (UMTEB-3), Gaziantep, Turkey, 21 June 2018, pp.491
- VIII. **Visible Image Watermarking Based on Image Fusion with Shearlet Transform Using Differential Evolution Algorithm**  
AKBULUT H., ASLANTAŞ V., ULUTAŞ H.  
INTERNATIONAL ADVANCED RESEARCHES ENGINEERING CONGRESS 2017, Osmaniye, Turkey, 16 - 18 November 2017, pp.1392
- IX. **Multi Focus Image Fusion Based On Shearlet Transform Using Genetic Algorithm**  
AKBULUT H., ASLANTAŞ V., ULUTAŞ H.  
INTERNATIONAL ADVANCED RESEARCHES ENGINEERING CONGRESS 2017, Osmaniye, Turkey, 16 - 18 November 2017, pp.1393
- X. **Multi-Focus Image Fusion Based on Discrete Wavelet Transform Using Particle Swarm Optimization Algorithm**  
AKBULUT H., ASLANTAŞ V., ULUTAŞ H.  
INTERNATIONAL ADVANCED RESEARCHES ENGINEERING CONGRESS 2017, Osmaniye, Turkey, 16 - 18 November 2017, pp.1391
- XI. **RFID Security System for Newborns in Hospitals**  
ULUTAŞ H., ASLANTAŞ V., AKBULUT H.  
INTERNATIONAL ADVANCED RESEARCHES ENGINEERING CONGRESS 2017, Osmaniye, Turkey, 16 - 18 November 2017, pp.1368-1372
- XII. **Multi-Focus Image Fusion Based on Discrete Wavelet Transform Using Firefly Optimization Algorithm**  
ASLANTAŞ V., AKBULUT H., ULUTAŞ H.  
Sixth Bozok Science Workshop: Studies from Nuclei to Nanomaterials with Applications, Yozgat, Turkey, 23 - 25 August 2017, vol.13, pp.54-55

## Supported Projects

Ulutaş H., TUBITAK Project, Buğdayda Kara Pas Hastalığının Coğrafi Bilgi Sistemleri (Cbs) Ve Yapay Zekaya Dayalı Olarak Belirlenmesi, 2023 - 2026

Ulutaş H., Karakaya B., Şahin M. E., TUBITAK Project, Memristif Kaotik Devrelere Dayalı Görüntü Şifreleme Tekniği ve Gerçek Zamanlı Uygulaması, 2022 - 2024

Ulutaş H., Şahin M. E., Erkoç M. F., Project Supported by Higher Education Institutions, Yapay zeka teknikleri kullanılarak servikal intervertebral disk sinyal intensitesinin tespit edilmesi, 2023 - 2023

YILDIZ A. K., ALTIN C., ULUTAŞ H., Project Supported by Higher Education Institutions, Hassas Arıcılıkta Kullanılması Amacıyla Elektronik veri Toplama Özellikli Kovan Sisteminin Geliştirilmesi ve Etkinliğinin İncelenmesi, 2017 - 2021

Ulutaş H., Altın C., Er O., Akdoğan V., Project Supported by Higher Education Institutions, UZAKTAN GÖRÜNTÜLEME VE GÖREV AMAÇLI OTOMATİK ŞARJ OLABİLEN BİLGİSAYAR VE İNTERNET KONTROLLÜ İNSANSIZ HAVA ARACI TASARIMI, 2018 - 2019

Ulutaş H., Er O., Akdoğan V., Ölmez E., Korkmaz M., Project Supported by Higher Education Institutions, Üç boyutlu görüntü işleme tekniği ile menisküs saptama ve hastalık tespiti, 2018 - 2019

Yıldız A. K., Ermetin O., Tüfekçi H., Ulutaş H., Project Supported by Higher Education Institutions, Yozgat İlindeki Akkaraman Irkı Koyun Sürülerinin Sürü Yapı ve Davranış Özelliklerinin Uzaktan Algılama Yöntemiyle Belirlenmesi ve Mera Kullanımına Etkisinin İncelenmesi, 2017 - 2019

Ulutaş H., Güngör Ulutaş E., KOSGEB, RFID İle Bebek Takip, 2014 - 2016

Ulutaş H., Güngör Ulutaş E., KOSGEB, RFID ile Bebek Takip, 2012 - 2014

## Activities in Scientific Journals

Electronic Letters on Science and Engineering, Technical Redactor, 2017 - Continues

## Scientific Refereeing

Turkish Journal of Science & Technology, National Scientific Refreed Journal, February 2024

Düzce Üniversitesi Bilim ve Teknoloji Dergisi, National Scientific Refreed Journal, September 2023

Sakarya University Journal of Computer and Information Sciences (Online), National Scientific Refreed Journal, August 2020

## Scientific Research / Working Group Memberships

Tarımda Yapay Zeka, Yozgat Bozok University, Turkey, <https://avesis.bozok.edu.tr/arastirma-grubu/agricultureai>, 2023 - Continues

Sağlıkta Yapay Zeka, Yozgat Bozok University, Turkey, <https://avesis.bozok.edu.tr/arastirma-grubu/sayaz>, 2023 - Continues

## Metrics

Publication: 33

Citation (WoS): 57

Citation (Scopus): 76

H-Index (WoS): 5

H-Index (Scopus): 5

## Non Academic Experience

Company, Heysem Yazılım Bilgi Teknolojileri Tur. San. Tic. LTD. ŐTİ, Yazılım Geliřtirme  
HEYSEM YAZILIM BİLGİ TEKNOLOJİLERİ TUR. SAN. TİC. LTD. ŐTİ.