

Asst. Prof. RİFAT KURBAN

Personal Information

Office Phone: [+90 352 504 3838](tel:+903525043838) Extension: 41104

Email: rifatkurban@kayseri.edu.tr

Other Email: rifatkurban@gmail.com

Web: <https://avesis.kayseri.edu.tr/rifatkurban>

International Researcher IDs

ScholarID: wh5YHHgAAAAJ

ORCID: 0000-0002-0277-2210

Publons / Web Of Science ResearcherID: B-1175-2012

ScopusID: 24729361200

Yoksis Researcher ID: 32455

Biography

I have Bachelor's, Master's and PhD degrees in **Computer Engineering** and a second Master's degree in **Integrated Water Management**.

My professional research interests are *Machine Learning, Internet of Things (IoT), Optimization, Image Processing and Water Management*.

I have over 15 years of academic experience at Erciyes University (Turkey), Kayseri University (Turkey) and the University of Tennessee in Knoxville (USA).

Also, I have nearly 10 years of industry experience at various smart automation companies in Turkey such as Envest Energy, Focus Information Technology, Computer & Robotics Corobo.

Until now, I've published 17 journal articles (11 of them are indexed in SCI-E) and over 30 conference papers. According to Google Scholar; I received over 600 citations to my publications and my h-index was calculated as 9.

I have successfully completed many academic and industrial projects so far. Among our latest products developed at Envest are smart water management software and energy efficient IoT devices for pump control and non-revenue water (NRW) reduction.

Education Information

Postgraduate, Ankara University, Integrated Water Management, Turkey 2019 - 2022

Post Doctorate, The University of Tennessee, Knoxville, Department of Electrical and Computer Engineering, Computer Science, United States Of America 2015 - 2016

Doctorate, Erciyes University, Fen Bilimleri Enstitüsü, Computer Engineering, Turkey 2006 - 2012

Undergraduate, Anadolu University, Faculty Of Business Administration (Open Education), Business Administration, Turkey 2002 - 2007

Postgraduate, Erciyes University, Fen Bilimleri Enstitüsü, Computer Engineering, Turkey 2004 - 2006

Undergraduate, Erciyes University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, Turkey 2000 - 2004

Foreign Languages

English, C1 Advanced

Certificates, Courses and Trainings

IT, Microsoft Certified Professional (Visual C#), Microsoft, 2003

Dissertations

Postgraduate, Prediction of Ideal Efficiencies of Submersible Pumps with Artificial Intelligence Techniques using the Instant Flow Rate and Head, Ankara University, Fen Bilimleri Enstitüsü, Integrated Water Management, 2022

Doctorate, New image fusion methods based on spatial domain block selection, Erciyes University, Fen Bilimleri Enstitüsü, Computer Engineering, 2012

Postgraduate, Wireless portable remote health monitoring system: Mobile health assistant, Erciyes University, Fen Bilimleri Enstitüsü, Computer Engineering, 2006

Research Areas

Computer Sciences, algorithms, Computer Vision, Equipment, Theoretical Computer Science, Database and Data Structures, Artificial Intelligence, Computer Learning and Pattern Recognition, Software

Academic Titles / Tasks

Assistant Professor, Kayseri University, Teknik Bilimler Meslek Yüksekokulu, Bilgisayar Teknolojileri Bölümü, 2019 - 2023

Assistant Professor, Erciyes University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2012 - 2019

Research Assistant, Erciyes University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2005 - 2012

Courses

Machine Learning and Metaheuristic Algorithms, Postgraduate, 2021 - 2022

Database Management Systems-II, Associate Degree, 2021 - 2022

Database Management Systems-I, Associate Degree, 2020 - 2021, 2019 - 2020

Image Processing and Computer Vision, Postgraduate, 2021 - 2022, 2020 - 2021

Metaheuristic Optimization Techniques, Postgraduate, 2021 - 2022

Computer Networks, Associate Degree, 2021 - 2022, 2020 - 2021

Introduction to Algorithms and Programming, Associate Degree, 2021 - 2022, 2020 - 2021

Graphics and Animation, Associate Degree, 2019 - 2020

Computerized Control, Associate Degree, 2019 - 2020

Research Techniques and Seminar, Associate Degree, 2020 - 2021

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Classification of apple images using support vector machines and deep residual networks**
Adige S., KURBAN R., Durmuş A., KARAKÖSE E.
Neural Computing and Applications, vol.35, no.16, pp.12073-12087, 2023 (SCI-Expanded)
- II. **Optimal Synthesis of Concentric Circular Antenna Arrays Using Political Optimizer**
Durmuş A., Kurban R.
IETE JOURNAL OF RESEARCH, vol.68, no.1, pp.768-777, 2022 (SCI-Expanded)
- III. **Optimum design of linear and circular antenna arrays using equilibrium optimization algorithm**
Durmuş A., KURBAN R.
INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES, vol.13, no.9, pp.986-997, 2021 (SCI-Expanded)
- IV. **A comparison of novel metaheuristic algorithms on color aerial image multilevel thresholding**
KURBAN R., Durmuş A., KARAKÖSE E.
Engineering Applications of Artificial Intelligence, vol.105, 2021 (SCI-Expanded)
- V. **A comparison of swarm-based optimization algorithms in linear antenna array synthesis**
Durmuş A., KURBAN R., KARAKÖSE E.
Journal of Computational Electronics, vol.20, no.4, pp.1520-1531, 2021 (SCI-Expanded)
- VI. **An interactive web based toolkit for multi focus image fusion**
Aslantaş V., Kurban R., Toprak A. N., Bendes E.
Journal of Web Engineering, vol.14, pp.117-135, 2015 (SCI-Expanded)
- VII. **Comparison of evolutionary and swarm based computational techniques for multilevel color image thresholding**
Kurban T., Civicioglu P., Kurban R., Beşdok E.
Applied Soft Computing Journal, vol.23, pp.128-143, 2014 (SCI-Expanded)
- VIII. **New optimised region-based multi-scale image fusion method for thermal and visible images**
Aslantaş V., Bendes E., Kurban R., Toprak A. N.
IET Image Processing, vol.8, pp.289-299, 2014 (SCI-Expanded)
- IX. **Fusion of multi-focus images using differential evolution algorithm**
Aslantaş V., Kurban R.
Expert Systems with Applications, vol.37, pp.8861-8870, 2010 (SCI-Expanded)
- X. **A comparison of criterion functions for fusion of multi-focus noisy images**
Aslantaş V., Kurban R.
Optics Communications, vol.282, pp.3231-3242, 2009 (SCI-Expanded)
- XI. **Using digital signatures in wireless portable remote health monitoring systems Kablosuz taşınabilir uzaktan sağlık izleme sistemlerinde sayısal imza kullanımı**
Aslantaş V., Kurban R., Çağlıkantar T.
Journal of the Faculty of Engineering and Architecture of Gazi University, vol.23, pp.531-538, 2008 (SCI-Expanded)

Articles Published in Other Journals

- I. **Robust Image Watermarking using Discrete Cosine Transform DC Components and Multi-Adaptive Scaling Factors**
Kurban R., Bozpolat H.
Eskişehir Osmangazi Üniversitesi Mühendislik Mimarlık Fakültesi Dergisi, vol.30, no.2, pp.190-200, 2022 (Peer-Reviewed Journal)
- II. **Fusion of Multi-Focus Images using Jellyfish Search Optimizer**
Çıtıl F., Kurban R., Durmuş A., Karaköse E.
Avrupa Bilim ve Teknoloji Dergisi, vol.37, pp.147-155, 2022 (Peer-Reviewed Journal)
- III. **Classification of Apple Varieties by Types Using Image Processing Techniques**
Adige S., Kurban R., Durmuş A., Karaköse E.
Avrupa Bilim ve Teknoloji Dergisi, vol.37, pp.131-138, 2022 (Peer-Reviewed Journal)

- IV. **Segmentation of 3-Dimensional Point Clouds with Region-Growing and Clustering Based Methods**
Bozkurt H., Kurban R.
Avrupa Bilim ve Teknoloji Dergisi, vol.29, pp.99-104, 2021 (Peer-Reviewed Journal)
- V. **Fusion of Multi Focus Images Using Genetic Algorithm**
Aslantaş V., Toprak A. N., Kurban R., Bendeş E.
Sigma Mühendislik ve Fen Bilimleri Dergisi, vol.5, no.1, pp.25-37, 2013 (ESCI)
- VI. **A comparative study on the physical properties of hybrid yarns containing copper wire**
Gazi Örtlek H., Çalışkan Ç., Kurban R.
Tekstil ve Muhendis, vol.20, pp.11-20, 2013 (Scopus)

Books & Book Chapters

- I. **Su Temin ve Dağıtım Sistemlerinin Otomasyonunda Endüstri 4.0, Nesnelerin İnterneti, Bulut Bilişim, Makine Öğrenimi ve Optimizasyon Uygulamaları**
Kurban R.
in: Mühendislikte Araştırma ve Değerlendirmeler II, Prof. Dr. Coşkun ÖZALP, Doç. Dr. Nurettin AKÇAKALE, Editor, Gece Kitaplığı, Ankara, pp.49-70, 2022

Refereed Congress / Symposium Publications in Proceedings

- I. **Automation of Urban Water Management Systems: A Machine Learning Approach**
Kurban R.
6th Arab Water Week , AWW2023, Amman, Jordan, 5 - 09 March 2023, pp.1
- II. **Linear Antenna Array Synthesis Using Atomic Orbital Search Algorithm**
Durmuş A., Yıldırım Z., Kurban R.
International Congress on Scientific Advances, ICONSAD 2021, Ankara, Turkey, 22 - 25 December 2021, pp.23-27
- III. **Classification of Benign and Malignant Tumors by Machine Learning Methods using MRI Images of the Brain**
Karaköse E., Kurban R., Durmuş A., Çıtıl F., Yıldırım Z.
3rd International Eurasian Conference on Science, Engineering and Technology (EurasianSciEnTech 2021), Ankara, Turkey, 15 - 17 December 2021, pp.85
- IV. **Prediction of Cardiovascular Diseases with Machine Learning Algorithms**
Kurban R.
8th International Engineering, Architecture and Design Congress, Ankara, Turkey, 6 - 07 December 2021, pp.1108
- V. **Segmentation of Histological Images using Artificial Bee Colony Algorithm**
Warsame K. M., Kurban R., Durmuş A.
International Cumhuriyet Artificial Intelligence Applications Conference, CAIAC 2021, Sivas, Turkey, 3 - 04 December 2021, pp.1-5
- VI. **Artificial Bee Colony Algorithm For Anomaly Based Intrusion Detection**
Çelik M., Kurban R., Kurban T.
International Congress on Multidisciplinary Natural Sciences and Engineering, ICOMNAS 2021, Ankara, Turkey, 1 - 02 December 2021, pp.90
- VII. **Energy Efficiency Optimization with Artificial Bee Colony Algorithm in Water Supply Systems**
Sekmen U., Yılmaz M., Özdemir Ö., Karaboğa D., Kurban R., Yıldız Ö. F.
Uluslararası Katılımlı 23. Isı Bilimi ve Tekniği Kongresi, ULIBTK 2021, Gaziantep, Turkey, 8 - 10 September 2021, vol.2, pp.1168-1178
- VIII. **İçme Suyu Temin Sistemlerinin SCADA Sistemleri ile Uzaktan Kontrolü ve Pompaların Hidrolik Analizi**
Kurban R., Güner M., Kütük A.
10. Pompa, Vana ve Kompresör Kongresi, Ankara, Turkey, 13 - 14 February 2020, pp.113-117

- IX. Image Watermarking using DC Component of DCT**
Kurban R., Bozpolat H., Skuka F.
ICIT 2015 The 7th International Conference on Information Technology, Amman, Jordan, 15 May 2015, pp.344-348
- X. A Novel Web Application for Image Fusion**
Aslantaş V., Kurban R., Toprak A. N., Bendeş E.
ICIT 2015 The 7th International Conference on Information Technology , Amman, Jordan, 15 May 2015, pp.397-401
- XI. Plane Segmentation of Kinect Point Clouds using RANSAC**
Kurban R., Skuka F., Bozpolat H.
7th International Conference on Information Technology, ICIT 2015, Amman, Jordan, 01 May 2015, pp.545-551
- XII. Genetik Algoritma Kullanarak Resim Uzayında Çoklu-Algılayıcı Görüntü Birleştirme**
Aslantaş V., Bendeş E., Kurban R., Toprak A. N., Karaboğa D.
Akıllı Sistemlerde Yenilikler ve Uygulamaları Sempozyumu, ASYU 2012, Trabzon, Turkey, 03 July 2012, pp.42-46
- XIII. Sınırlı Alan Derinliğini Artırmak İçin Genetik Algoritmaya Dayalı Yeni Bir Yöntem**
Aslantaş V., Toprak A. N., Kurban R., Bendeş E.
Akıllı Sistemlerde Yenilikler ve Uygulamaları Sempozyumu, ASYU 2012, Trabzon, Turkey, 03 July 2012, pp.30-34
- XIV. Çoklu Algılayıcılardan Alınan Görüntülerde Eşleştirme Yöntemlerinin Karşılaştırılması**
Bendeş E., Aslantaş V., Kurban R., Toprak A. N.
Elektrik-Elektronik ve Bilgisayar Sempozyumu, FEED 2011, Elazığ, Turkey, 05 October 2011, pp.110-114
- XV. A comparison of image fusion methods on visible, thermal and multi-focus images for surveillance applications**
Aslantaş V., Bendeş E., Toprak A. N., Kurban R.
4th International Conference on Imaging for Crime Detection and Prevention, ICDP 2011, London, United Kingdom, 01 January 2011, pp.1-6
- XVI. Extending depth-of-field of a digital camera using particle swarm optimization based image fusion**
Aslantaş V., Kurban R.
14th IEEE International Symposium on Consumer Electronics, ISCE 2010, Braunschweig, Germany, 7 - 10 June 2010
- XVII. Multi-Focus Image Fusion In Spatial Domain Using Artificial Bee Colony Optimization Algorithm**
Aslantaş V., Kurban R.
International Symposium on INnovations in Intelligent SysTems and Applications, INISTA 2010, Kayseri, Turkey, 21 July 2010, pp.1-5
- XVIII. Görünür ve Termal Görüntülerin Birleştirilmesinde Kullanılan Çoklu-Ölçekli Yöntemlerin Karşılaştırılması**
Aslantaş V., Kurban R., Bendeş E.
Uzaktan Algılama ve Coğrafi Bilgi Sistemleri Sempozyumu, UZALCBS 2010, Kayseri, Turkey, 01 June 2010, pp.1-5
- XIX. Extending depth-of-field by image fusion using multi-objective genetic algorithm**
Aslantaş V., Kurban R.
2009 7th IEEE International Conference on Industrial Informatics, INDIN 2009, Cardiff, United Kingdom, 23 - 26 June 2009, pp.331-336
- XX. Evaluation of criterion functions for the fusion of multi-focus noisy images Çok-odaklı görüntülerin birleştirilmesinde kistas fonksiyonlarının değerlendirilmesi**
Aslantaş V., Kurban R.
2009 IEEE 17th Signal Processing and Communications Applications Conference, SIU 2009, Antalya, Turkey, 9 - 11 April 2009, pp.492-495
- XXI. A comparison of different focus measures for use in fusion of multi-focus noisy images**
Aslantaş V., Kurban R.
4th International Conference on Information Technology, ICIT 2009, Amman, Jordan, 03 June 2009, pp.1-5
- XXII. Genetik Algoritma Kullanarak Görüntü Kaynaştırma Tabanlı Görünür Damgalama**
Aslantaş V., Kurban R.
3. Uluslararası Katılımlı Bilgi Güvenliği ve Kriptoloji Konferansı, ISCTURKEY 2008, Ankara, Turkey, 25 December

2008, pp.178-182

- XXIII. **Multi-Focus Image Fusion Using A Fuzzy Criterion Function**
Aslantaş V., Bulatov A., Kurban R.
6th International Symposium on Intelligent And Manufacturing Systems, IMS 2008, Sakarya, Turkey, 14 October 2008, pp.1-5
- XXIV. **A region Based Defocusing Method for Fusion of Multi-Focus Images**
Aslantaş V., Bulatov A., Kurban R.
2. Uzaktan Algılama ve Coğrafi Bilgi Sistemleri Sempozyumu, UZALCBS 2008, Kayseri, Turkey, 13 October 2008, pp.612-620
- XXV. **Parçacık Sürü Optimizasyonu ile DWT-SVD Tabanlı Resim Damgalama**
Aslantaş V., Dogan A., Kurban R.
Uluslararası Katılımlı Bilgi Güvenliği ve Kriptoloji Konferansı, ISCTURKEY 2007, Ankara, Turkey, 13 December 2007, pp.213-218
- XXVI. **Linear prediction with adaptive filters by using clonal selection algorithm Klonal seçme algoritması kullanarak uyarlanır süzgeçler ile doğrusal kestirim**
Çağlıkantar T., Kurban R.
2007 IEEE 15th Signal Processing and Communications Applications, SIU, Eskişehir, Turkey, 11 - 13 June 2007
- XXVII. **Yapay Sinir Ağları Ve Coğrafi Bilgi Sistemlerindeki Uygulamaları**
Aslantaş V., Kurban R.
Ulusal Coğrafi Bilgi Sistemleri Kongresi, CBS 2007, Trabzon, Turkey, 30 October 2007, pp.1-5
- XXVIII. **Çok-odaklı Görüntü Birleştirme İçin Netlik Ölçütlerinin Değerlendirilmesi**
Aslantaş V., Kurban R., Kalaycı S.
3. Ulusal Mühendislik Olcmeleri Sempozyumu, Konya, Turkey, 24 October 2007, pp.1-5
- XXIX. **A Low-Cost Wireless Healthcare Monitoring System And Communication to a Clinical Alarm Station**
Aslantaş V., Kurban R., Kurban T.
5th INTERNATIONAL CONFERENCE on ELECTRICAL and ELECTRONICS ENGINEERING, ELECO 2007, Bursa, Turkey, 05 December 2007, pp.1-5
- XXX. **Türkiye'deki Bilgisayar Mühendisliği Bölümlerinde 2000-2006 Yılları Arasında Yapılan Bilimsel Çalışmaların Kurumlara ve Konulara Göre Dağılımı**
Aslantaş V., Kurban R.
Akademik Bilişim Konferansı, AB 2007, Kütahya, Turkey, 31 January - 02 February 2007, pp.117-122
- XXXI. **Taşınabilir Uzaktan Sağlık İzleme Sistemlerinde LRC ve RSA Tabanlı Sayısal İmza Kullanımı**
Aslantaş V., Kurban R., Kurban T.
Ulusal Elektronik İmza Sempozyumu, 2006, Ankara, Turkey, 7 - 08 December 2006, pp.70-74
- XXXII. **Cep Bilgisayarı (PDA) Tabanlı Taşınabilir Kablosuz Elektrokardiyogram İzleme ve Alarm Sistemi**
Aslantaş V., Kurban R.
Elektrik, Elektronik ve Bilgisayar Mühendisliği Sempozyumu, ELECO 2006, Bursa, Turkey, 06 December 2006, pp.6-10
- XXXIII. **Taşınabilir Uzaktan Sağlık İzleme Sistemlerine Yeni Bir Yaklaşım: Mobil Sağlık Danışmanı**
Kurban R., Aslantaş V.
URSI Türkiye 2006, 3. Bilimsel Kongresi, Ankara, Turkey, 6 - 07 September 2006, pp.523-525
- XXXIV. **Skin wound analysis using digital image processing Deri üzerindeki yaraların sayısal görüntü işleme ile analizi**
Oduncu H., Aslantaş V., Tunçkanat M., Kurban R.
IEEE 13th Signal Processing and Communications Applications Conference, SIU 2005, Kayseri, Turkey, 16 - 18 May 2005, vol.2005, pp.645-648
- XXXV. **Voice Recognition Based On Neural Networks**
Tunçkanat M., Kurban R., Sağıroğlu Ş.
IJCI Proceedings of International Conference on Signal Processing, ICSP 2003, Çanakkale, Turkey, 01 June 2003, pp.280-285
- XXXVI. **Speaker Identification using Neural Networks**

Kurban R., Tunçkanat M., Sağırođlu Ő.

III. Ulusal Proje Araniyor Ogrenci Sempozyumu, Kayseri, Turkey, 28 - 30 April 2003, pp.90-95

Supported Projects

Kurban R., Toprak A. N., Őahin Ő., TUBITAK Project, Artificial Intelligence Supported Water Management Software Platform Development, 2022 - 2023

Akay B., Kurban R., Karabođa D., TUBITAK Project, Optimization of Energy Efficiency in Water Supply Systems with Hybrid Methods, 2022 - 2023

Kurban R., TUBITAK Project, Development of Remote Pump Control and Water Systems Monitoring Device with Built-in Flowmeter, 2021 - 2022

AslantaŐ V., Kurban R., Industrial Thesis Project, Real-Time Color Analysis and Error Detection in Sub-Centrifugal Sugar, Ministry of Industry of Turkey, 2015 - 2019

Kurban R., TUBITAK Project, Beam Splitter Based Automated Image Capture System for Depth of Field Image and Stereoscopic 3D Video Production, 2013 - 2014

AslantaŐ V., TUBITAK Project, Development of New Optimal Methods for Image Fusion, 2010 - 2012

Patent

Karabođa D., Akay B., Őzdemir Ő., Ince A., Sekmen U., Kurban R., AN ARTIFICIAL BEE COLONY ALGORITHM-BASED METHOD AND A WATER SUPPLY SYSTEM FOR OPERATING MULTIPLE PUMPS OPTIMALLY FOCUSED ON ENERGY EFFICIENCY, Patent, CHAPTER H Electricity, The Invention Registration Number: 2020 22405 , Standard Registration, 2020, 2022

Scientific Refereeing

Technopark, Kayseri University, Turkey, April 2022

ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, SCI Journal, February 2022

EVOLVING SYSTEMS, SCI Journal, February 2022

ARTIFICIAL INTELLIGENCE REVIEW, SCI Journal, January 2022

Balkan Journal of Electrical and Computer Engineering, National Scientific Refreed Journal, November 2021

Adiyaman Őniversitesi Mühendislik Bilimleri Dergisi, National Scientific Refreed Journal, June 2021

Adiyaman Őniversitesi Mühendislik Bilimleri Dergisi, National Scientific Refreed Journal, May 2021

BALKAN JOURNAL OF ELECTRICAL AND COMPUTER ENGINEERING, National Scientific Refreed Journal, March 2021

Bilecik Őeyh Edebali Őniversitesi Fen Bilimleri Dergisi, National Scientific Refreed Journal, February 2021

JOURNAL OF ELECTRONIC IMAGING, SCI Journal, February 2021

EskiŐehir Osmangazi Őniversitesi Mühendislik Mimarlık Fakóltesi Dergisi, National Scientific Refreed Journal, January 2021

IEEE ACCESS, SCI Journal, March 2020

ESKİŐEHİR OSMANGAZI ŐNİVERSİTESİ MÜHENDİSLİK MİMARLIK FAKÖLTESİ DERĐİSİ, National Scientific Refreed Journal, March 2020

International Journal of Computing and Digital Systems, Other Indexed Journal, March 2020

Metrics

Publication: 54

Citation (WoS): 366

Citation (Scopus): 463

H-Index (WoS): 7

H-Index (Scopus): 8