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Education Information

Post Doctorate, The University of Birmingham, School Of Computer Science, Cercia, United Kingdom 2011 - 2012

Doctorate, Erciyes University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği Abd, Turkey 2005 - 2009

Postgraduate, Erciyes University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği Abd, Turkey 2003 - 2005

Undergraduate, Erciyes University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, Turkey 1999 - 2003

Dissertations

Doctorate, Nümerik Optimizasyon Problemlerinde Yapay Arı Kolonisi (Artificial Bee Colony) Algoritmasının Performans Analizi, Erciyes Üniversitesi, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği Abd, 2009

Postgraduate, Bilgisayar Destekli Yöntemlerle Yüzdeki Dismorfik Rahatsızlıkların Otomatik Tespiti, Erciyes Üniversitesi, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği Abd, 2005

Research Areas

Computer Sciences, Artificial Intelligence, Computer Learning and Pattern Recognition, Evolutionary Computing, Software, Software Engineering, Engineering and Technology

Academic Titles / Tasks

Professor, Erciyes University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2019 - Continues

Associate Professor, Erciyes University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2013 - 2019

Assistant Professor, Erciyes University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2009 - 2013

Research Assistant, Erciyes University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2004 - 2009

Academic and Administrative Experience

Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi, Erciyes University, Yapay Zekâ ve Büyük Veri Uygulama ve

Araştırma Merkezi, 2020 - Continues
BİDEB Danışma Kurulu Üyesi, TÜBİTAK BİDEB, 2019 - Continues
Erciyes University, 2016 - Continues
Erciyes University, 2015 - Continues
Erciyes University, 2015 - Continues
Erasmus Coordinator, Erciyes University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2015 - 2020
Erciyes Üniversitesi, Bilgisayar Bilimleri Uygulama Ve Araştırma Merkezi, 2016 - 2019
Erciyes Üniversitesi, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2016 - 2017
Erciyes University, 2016 - 2017

Advising Theses

Akay B., Histopatolojik Görüntü Analizinde Derin Öğrenme Yöntemlerinin Geliştirilmesi, Doctorate, D.ALICI(Student), 2024
Akay B., Slowik A., Medikal verilerin sınıflandırılmasında federe öğrenme, Postgraduate, B.NUR(Student), 2023
Akay B., YAPAY ARI KOLONİSİ TEMELLİ LOJİSTİK REGRESYON SINIFLAYICILARIN OPTİMAL TASARIMI VE TÜRKÇE SPAM MAİLLERİN FİLTRELENMESİNDE BAŞARIMLARININ İNCELENMESİ, Doctorate, B.KAĞAN(Student), 2020
Akay B., Nesne Yönelimli Yazılımlar ve RESTful Web Servisler için Yapay Arı Kolonisi Temelli Yazılım Test Yöntemleri Geliştirilmesi, Doctorate, Ö.ŞAHİN(Student), 2020
Akay B., Yapay zeka algoritmaları ile kriptoanaliz, Doctorate, A.KH(Student), 2020
Akay B., İNSAN AKTİVİTESİ TANIMAYA YÖNELİK BÜYÜK VERİ SETLERİNDE KÜMELEME YÖNTEMLERİNİN BULUT ÜZERİNDE PARALELLEŞTİRİLMESİ, Doctorate, A.ABDULRAHMAN(Student), 2020
Akay B., Yapay Arı Koloni Algoritmasının Sınırlamalı Optimizasyon Problemleri Üzerinde Performans Analizi, Postgraduate, D.ALICI(Student), 2019
AKAY B., Minimum Spanning Tree Construction using Meta-heuristics, Postgraduate, N.Abdulkareem(Student), 2017
AKAY B., An Investigation of Wireless Sensor Network Localization Techniques, Postgraduate, L.Jasim(Student), 2017
AKAY B., Yazılım Test Verisi Üretiminde Yapay Zeka Tekniklerinin Performans Analizi, Postgraduate, Ö.Şahin(Student), 2016
AKAY B., Kriptoloji Yöntemlerinin Karşılaştırılması, Postgraduate, Z.Hashim(Student), 2016
AKAY B., Yapay Zeka Yekniklerinin Renk Haritası İndirgemedede Kullanılması, Postgraduate, K.Demir(Student), 2013

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **A robust deep learning model for the classification of dental implant brands**
LEBLEBİCİOĞLU KURTULUŞ İ., Lubbad M., Yilmaz O. M. D., KILIÇ K., KARABOĞA D., BAŞTÜRK A., AKAY B., Nalbantoglu U., Yilmaz S., Ayata M., et al.
Journal of Stomatology, Oral and Maxillofacial Surgery, vol.125, no.5, 2024 (SCI-Expanded)
- II. **A Comparative Analysis of Deep Learning-Based Approaches for Classifying Dental Implants Decision Support System**
Lubbad M. A. H., LEBLEBİCİOĞLU KURTULUŞ İ., KARABOĞA D., KILIÇ K., BAŞTÜRK A., AKAY B., NALBANTOĞLU Ö. U., Yilmaz O. M. D., AYATA M., YILMAZ S., et al.
JOURNAL OF IMAGING INFORMATICS IN MEDICINE, 2024 (SCI-Expanded)
- III. **Machine learning applications in detection and diagnosis of urology cancers: a systematic literature review**
Lubbad M., KARABOĞA D., BAŞTÜRK A., AKAY B., Nalbantoglu U., Pacal I.
NEURAL COMPUTING & APPLICATIONS, vol.36, no.12, pp.6355-6379, 2024 (SCI-Expanded)
- IV. **An Efficient Deep Learning Model for Prostate Cancer Diagnosis**
Alici-Karaca D., Akay B.
IEEE Access, vol.12, pp.150776-150792, 2024 (SCI-Expanded)

- V. **Deep learning-based breast cancer diagnosis with multiview of mammography screening to reduce false positive recall rate**
KARAGÖZ M. A., Nalbantoglu O. U., KARABOĞA D., AKAY B., Basturk A., ULUTABANCA H., DOĞAN S., Coskun D., Demir O.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.32, no.3, pp.382-402, 2024 (SCI-Expanded)
- VI. **A comparative study of YOLO models and a transformer-based YOLOv5 model for mass detection in mammograms**
COŞKUN D., KARABOĞA D., BAŞTÜRK A., AKAY B., NALBANTOĞLU Ö. U., DOĞAN S., Paçal İ., KARAGÖZ M. A.
Turkish Journal of Electrical Engineering and Computer Sciences, vol.31, no.7, pp.1294-1313, 2023 (SCI-Expanded)
- VII. **Robust real-time polyp detection system design based on YOLO algorithms by optimizing activation functions and hyper-parameters with artificial bee colony (ABC)**
Karaman A., Pacal I., BAŞTÜRK A., AKAY B., Nalbantoglu U., Coskun S., ŞAHİN Ö., KARABOĞA D.
EXPERT SYSTEMS WITH APPLICATIONS, vol.221, 2023 (SCI-Expanded)
- VIII. **Hyper-parameter optimization of deep learning architectures using artificial bee colony (ABC) algorithm for high performance real-time automatic colorectal cancer (CRC) polyp detection**
Karaman A., KARABOĞA D., Pacal I., AKAY B., BAŞTÜRK A., Nalbantoglu U., Coskun S., ŞAHİN Ö.
APPLIED INTELLIGENCE, vol.53, no.12, pp.15603-15620, 2023 (SCI-Expanded)
- IX. **An unsupervised transfer learning model based on convolutional auto encoder for non-alcoholic steatohepatitis activity scoring and fibrosis staging of liver histopathological images**
KARAGÖZ M. A., AKAY B., BAŞTÜRK A., KARABOĞA D., NALBANTOĞLU Ö. U.
Neural Computing and Applications, vol.35, no.14, pp.10605-10619, 2023 (SCI-Expanded)
- X. **A review on the studies employing artificial bee colony algorithm to solve combinatorial optimization problems**
KAYA E., GÖRKEMLİ B., AKAY B., KARABOĞA D.
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, vol.115, 2022 (SCI-Expanded)
- XI. **A new lightweight convolutional neural network for radiation-induced liver disease classification**
Alici-Karaca D., Akay B., Yay A. H., Suna P., Nalbantoglu Ö. U., Karaboğa D., Baştürk A., Balcıoğlu E., Baran M.
BIOMEDICAL SIGNAL PROCESSING AND CONTROL, vol.73, 2022 (SCI-Expanded)
- XII. **A comprehensive survey on optimizing deep learning models by metaheuristics**
AKAY B., KARABOĞA D., AKAY R.
ARTIFICIAL INTELLIGENCE REVIEW, vol.55, no.2, pp.829-894, 2022 (SCI-Expanded)
- XIII. **An efficient real-time colonic polyp detection with YOLO algorithms trained by using negative samples and large datasets**
Pacal I., Karaman A., KARABOĞA D., AKAY B., BAŞTÜRK A., Nalbantoglu U., Coskun S.
COMPUTERS IN BIOLOGY AND MEDICINE, vol.141, 2022 (SCI-Expanded)
- XIV. **A survey on the Artificial Bee Colony algorithm variants for binary, integer and mixed integer programming problems**
AKAY B., KARABOĞA D., GÖRKEMLİ B., Kaya E.
Applied Soft Computing, vol.106, 2021 (SCI-Expanded)
- XV. **Archive-based multi-criteria Artificial Bee Colony algorithm for whole test suite generation**
ŞAHİN Ö., AKAY B., KARABOĞA D.
Engineering Science and Technology, an International Journal, vol.24, pp.806-817, 2021 (SCI-Expanded)
- XVI. **A Discrete Dynamic Artificial Bee Colony with Hyper-Scout for RESTful web service API test suite generation**
ŞAHİN Ö., AKAY B.
Applied Soft Computing, vol.104, 2021 (SCI-Expanded)
- XVII. **A survey on the Metaheuristics for Cryptanalysis of Substitution and Transposition Ciphers**
Sabonchi A. K. S., AKAY B.
COMPUTER SYSTEMS SCIENCE AND ENGINEERING, vol.39, no.1, pp.87-106, 2021 (SCI-Expanded)
- XVIII. **A Binomial Crossover Based Artificial Bee Colony Algorithm for Cryptanalysis of Polyalphabetic**

Cipher

Sabonchi A. K. S., AKAY B.

TEHNICKI VJESNIK-TECHNICAL GAZETTE, vol.27, no.6, pp.1825-1835, 2020 (SCI-Expanded)

- XIX. **Human Activity Recognition Based on Parallel Approximation Kernel K-Means Algorithm**
Jamel A. A. M., Akay B.
Computer Systems Science And Engineering, vol.35, no.6, pp.441-456, 2020 (SCI-Expanded)
- XX. **A comprehensive review of deep learning in colon cancer**
Pacal I., KARABOĞA D., BAŞTÜRK A., AKAY B., Nalbantoglu U.
COMPUTERS IN BIOLOGY AND MEDICINE, vol.126, 2020 (SCI-Expanded)
- XXI. **Cryptanalysis of Polyalphabetic Cipher Using Differential Evolution Algorithm**
Sabonchi A. K. S., AKAY B.
TEHNICKI VJESNIK-TECHNICAL GAZETTE, vol.27, no.4, pp.1101-1107, 2020 (SCI-Expanded)
- XXII. **Spam filtering using a logistic regression model trained by an artificial bee colony algorithm**
Dedetürk B. K., AKAY B.
APPLIED SOFT COMPUTING, vol.91, 2020 (SCI-Expanded)
- XXIII. **A Survey and Systematic Categorization of Parallel K-means and Fuzzy-c-Means Algorithms**
Jamel A. A. M., AKAY B.
COMPUTER SYSTEMS SCIENCE AND ENGINEERING, vol.34, no.5, pp.259-281, 2019 (SCI-Expanded)
- XXIV. **Application of artificial bee colony algorithm for maximizing heat transfer in a perforated fin**
Das R., Singh K., AKAY B., Gogoi T. K.
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART E-JOURNAL OF PROCESS MECHANICAL ENGINEERING, vol.232, no.1, pp.38-48, 2018 (SCI-Expanded)
- XXV. **Pareto front feature selection based on artificial bee colony optimization**
Hancer E., Xue B., Zhang M., Karaboga D., Akay B.
INFORMATION SCIENCES, vol.422, pp.462-479, 2018 (SCI-Expanded)
- XXVI. **Application of artificial bee colony algorithm for inverse modelling of a solar collector**
Das R., AKAY B., Singla R. K., Singh K.
INVERSE PROBLEMS IN SCIENCE AND ENGINEERING, vol.25, no.6, pp.887-908, 2017 (SCI-Expanded)
- XXVII. **Comparisons of metaheuristic algorithms and fitness functions on software test data generation**
ŞAHİN Ö., AKAY B.
APPLIED SOFT COMPUTING, vol.49, pp.1202-1214, 2016 (SCI-Expanded)
- XXVIII. **A survey on the applications of artificial bee colony in signal, image, and video processing**
AKAY B., KARABOĞA D.
SIGNAL IMAGE AND VIDEO PROCESSING, vol.9, no.4, pp.967-990, 2015 (SCI-Expanded)
- XXIX. **The Artificial Bee Colony algorithm in layer optimization for the maximum fundamental frequency of symmetrical laminated composite plates**
APALAK M. K., KARABOĞA D., AKAY B.
ENGINEERING OPTIMIZATION, vol.46, no.3, pp.420-437, 2014 (SCI-Expanded)
- XXX. **Synchronous and asynchronous Pareto-based multi-objective Artificial Bee Colony algorithms**
Akay B.
JOURNAL OF GLOBAL OPTIMIZATION, vol.57, no.2, pp.415-445, 2013 (SCI-Expanded)
- XXXI. **A study on particle swarm optimization and artificial bee colony algorithms for multilevel thresholding**
Akay B.
APPLIED SOFT COMPUTING, vol.13, no.6, pp.3066-3091, 2013 (SCI-Expanded)
- XXXII. **Artificial bee colony algorithm for large-scale problems and engineering design optimization**
AKAY B., KARABOĞA D.
JOURNAL OF INTELLIGENT MANUFACTURING, vol.23, no.4, pp.1001-1014, 2012 (SCI-Expanded)
- XXXIII. **A modified Artificial Bee Colony algorithm for real-parameter optimization**
AKAY B., KARABOĞA D.
INFORMATION SCIENCES, vol.192, pp.120-142, 2012 (SCI-Expanded)

- XXXIV. **Mix Proportioning of Aggregates for Concrete by Three Different Approaches**
HAKTANIR T., KARABOĞA D., AKAY B.
JOURNAL OF MATERIALS IN CIVIL ENGINEERING, vol.24, no.5, pp.529-537, 2012 (SCI-Expanded)
- XXXV. **Modeling discharge-sediment relationship using neural networks with artificial bee colony algorithm**
KİSİ O., ÖZKAN C., AKAY B.
JOURNAL OF HYDROLOGY, vol.428, pp.94-103, 2012 (SCI-Expanded)
- XXXVI. **Neural networks with artificial bee colony algorithm for modeling daily reference evapotranspiration**
ÖZKAN C., KİSİ O., AKAY B.
IRRIGATION SCIENCE, vol.29, no.6, pp.431-441, 2011 (SCI-Expanded)
- XXXVII. **Partial transmit sequences based on artificial bee colony algorithm for peak-to-average power ratio reduction in multicarrier code division multiple access systems**
TAŞPINAR N., KARABOĞA D., YILDIRIM M., AKAY B.
IET COMMUNICATIONS, vol.5, no.8, pp.1155-1162, 2011 (SCI-Expanded)
- XXXVIII. **Partial Transmit Sequences Based On Artificial Bee Colony Algorithm for PAPR Reduction in MC-CDMA Systems**
TAŞPINAR N., KARABOĞA D., YILDIRIM M., AKAY B.
IET COMMUNICATIONS, vol.5, no.8, pp.1155-1162, 2011 (SCI-Expanded)
- XXXIX. **A modified Artificial Bee Colony (ABC) algorithm for constrained optimization problems**
KARABOĞA D., AKAY B.
APPLIED SOFT COMPUTING, vol.11, no.3, pp.3021-3031, 2011 (SCI-Expanded)
- XL. **PAPR reduction using artificial bee colony algorithm in OFDM systems**
TAŞPINAR N., KARABOĞA D., YILDIRIM M., AKAY B.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.19, no.1, pp.47-58, 2011 (SCI-Expanded)
- XLI. **Proportional-integral-derivative controller design by using artificial bee colony, harmony search, and the bees algorithms**
KARABOĞA D., AKAY B.
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART I-JOURNAL OF SYSTEMS AND CONTROL ENGINEERING, vol.224, pp.869-883, 2010 (SCI-Expanded)
- XLII. **A comparative study of Artificial Bee Colony algorithm**
KARABOĞA D., AKAY B.
APPLIED MATHEMATICS AND COMPUTATION, vol.214, no.1, pp.108-132, 2009 (SCI-Expanded)
- XLIII. **A survey: algorithms simulating bee swarm intelligence**
KARABOĞA D., AKAY B.
ARTIFICIAL INTELLIGENCE REVIEW, vol.31, pp.61-85, 2009 (SCI-Expanded)
- XLIV. **On the performance of artificial bee colony (ABC) algorithm**
Karaboga D., Basturk B.
APPLIED SOFT COMPUTING, vol.8, no.1, pp.687-697, 2008 (SCI-Expanded)
- XLV. **A powerful and efficient algorithm for numerical function optimization: artificial bee colony (ABC) algorithm**
Karaboga D., Basturk B.
JOURNAL OF GLOBAL OPTIMIZATION, vol.39, no.3, pp.459-471, 2007 (SCI-Expanded)

Articles Published in Other Journals

1. **Geliştirilmiş EfficientNet-B0 mimarisi ile Helikobakter Pilorinin Teşhisi**
Alıcı Karaca D., Akay B., Karaboğa D., Baştürk A., Nalbantoğlu Ö. U.
Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.12, no.2, pp.729-742, 2024 (Peer-Reviewed Journal)

- II. **Medikal Verilerin Sınıflandırılmasında Federe Öğrenme**
Akşit B. N., Akay B., Slowik A.
Erciyes Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.39, no.3, pp.548-570, 2023 (Peer-Reviewed Journal)
- III. **Parameter Tuning of Artificial Bee Colony Algorithm Using Iterative F-Race Algorithm**
Şahin Ö., Akay B.
Erciyes Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.37, no.1, pp.12-25, 2021 (Peer-Reviewed Journal)
- IV. **A survey on the studies employing machine learning (ML) for enhancing artificial bee colony (ABC) optimization algorithm**
Karaboğa D., Akay B., Karaboğa N.
Cogent Engineering, vol.7, no.1, pp.1855741, 2020 (ESCI)
- V. **Sınırlama Ele Alış Metotlarının Yapay Arı Kolonisi Algoritması Üzerinde Etkisinin İncelenmesi**
ALICI KARACA D., AKAY B.
Erciyes Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.36, no.3, pp.385-399, 2020 (Peer-Reviewed Journal)
- VI. **Artificial Bee Colony Algorithm Variants on Constrained Optimization**
AKAY B., KARABOĞA D.
International Journal of Optimization and Control: Theories & Applications, vol.7, no.1, 2017 (Peer-Reviewed Journal)
- VII. **KLASİK KRİPTOLOJİ YÖNTEMLERİNİN KARŞILAŞTIRILMASI**
Z H O., A S., AKAY B.
e-Journal of New World Sciences Academy, vol.11, no.4, pp.100-108, 2016 (Peer-Reviewed Journal)
- VIII. **Artificial Bee Colony ABC Optimization Algorithm For Training Feed Forward Neural Networks Bu çalışma LNCS tarafından konferans yayınından makale olarak yayınlanmıştır**
KARABOĞA D., AKAY B., ÖZTÜRK C.
LNCS: Modeling Decisions for Artificial Intelligence, vol.4617, pp.318-329, 2007 (Scopus)

Books & Book Chapters

- I. **Artificial Bee Colony Algorithm and Its Application to Content Filtering in Digital Communication**
DEDETÜRK B. K., AKAY B., KARABOĞA D.
in: Nature-Inspired Metaheuristic Algorithms for Engineering Optimization Applications, Carbas Serdar, Toktas Abdurrahim, Ustun Deniz, Editor, Springer Nature, pp.337-355, 2021
- II. **Artificial Bee Colony Algorithm and Its Application to Content Filtering in Digital Communication**
DEDETÜRK B. K., AKAY B., KARABOĞA D.
in: Nature-Inspired Metaheuristic Algorithms for Engineering Optimization Applications, Carbas Serdar, Toktas Abdurrahim, Ustun Deniz,, Editor, Springer Nature, Singapore, pp.337-355, 2021
- III. **Artificial Bee Colony Algorithm and An Application to Software Defect Prediction**
Akay R., Akay B.
in: Metaheuristic Optimization Methods: Algorithms and Engineering Applications, Fouad Bennis,Rajib K Bhattacharjya, Editor, Springer, London/Berlin , Berlin, pp.73-92, 2020
- IV. **Artificial Bee Colony - Modifications and An Application to Software Requirements Selection**
Akay B.
in: Swarm Intelligence Algorithms: Modifications and Applications, Adam Slowick, Editor, CRC, New York , Florida, pp.1-26, 2020
- V. **Artificial Bee Colony Algorithm**
Akay B., Karaboğa D.
in: Swarm Intelligence Algorithms: A Tutorial, Adam Slowick, Editor, CRC, New York , Florida, pp.1-25, 2020
- VI. **Artificial Bee Colony Algorithm Variants and Its Application to Colormap Quantization**
Akay B., Demir K.
in: Evolutionary and Swarm Intelligence Algorithms, Jagdish Chand Bansal,Pramod Kumar Singh,Nikhil R. Pal , Editor, Springer, London/Berlin , Berlin, pp.25-41, 2019

VII. Recent Advances in Evolutionary Algorithms for Job Shop Scheduling

AKAY B., YAO X.

in: Automated Scheduling and Planning, E. Ozcan, N. Urquhart, S. Uyar, Editor, Springer-Verlag GmbH- Berlin Heidelberg, Berlin, pp.191-224, 2013

Refereed Congress / Symposium Publications in Proceedings

- I. **Deep Learning Based Steatosis Quantification of Liver Histopathology Images Using Unsupervised Feature Extraction**
KARAGÖZ M. A., KARABOĞA D., AKAY B., BAŞTÜRK A., Nalbantoglu O. U.
2nd International Conference on Computing and Machine Intelligence, ICMI 2022, İstanbul, Turkey, 15 - 16 July 2022
- II. **Developing A Deep Learning Network For Recognition of Dental Implant Systems**
Leblebicioğlu Kurtuluş İ., Karaboğa D., Akay B., Baştürk A., Durmaz Yılmaz Ö. M., Kılıç K., Nalbantoglu Ö. U., Yılmaz S.
25th Scientific Congress of Turkish Prosthodontics and Implantology Association, Muğla, Turkey, 4 - 07 November 2021
- III. **Statistics based Cryptanalytic by Artificial Bee Colony Algorithm**
Sabonchi A., AKAY B.
The International Advanced Technologies Symposium, IATS17, 19 - 21 October 2017, pp.3874-3879
- IV. **Cryptanalysis using Artificial Bee Colony Algorithm Guided by Frequency based Fitness Value**
Sabonchi A. K. S., AKAY B.
1st International Symposium on Multidisciplinary Studies and Innovative Technologies, ISMSIT 2017, Tokat, Turkey, 2 - 04 November 2017, pp.334-338
- V. **An Investigation of Range-based Localization Methods in Wireless Sensor Networks**
Jasim L., AKAY B.
1st International Symposium on Multidisciplinary Studies and Innovative Technologies, ISMSIT 2017, Tokat, Turkey, 2 - 04 November 2017, pp.78-83
- VI. **Derin öğrenme tabanlı önerici sistemler (Deep learning based recommender systems)**
AKAY B., KAYNAR O., DEMİRKOPARAN F.
IEEE Conferences 2017 International Conference on Computer Science and Engineering (UBMK), Antalya, Turkey, Turkey, 5 - 08 October 2017, pp.645-648
- VII. **Öğrenme-Öğretme Temelli ve Armoni Arama Algoritmaları ile Test Verisi Üretimi**
Akay B., Şahin Ö.
10. Ulusal Yazılım Mühendisliği Sempozyumu, Çanakkale, Turkey, 24 - 26 October 2016, pp.154-165
- VIII. **Döngü İçeren Kod Parçaları için Test Verisi Üretiminde Meta-sezgisel Algoritmaların İncelemesi**
ŞAHİN Ö., AKAY B.
1st International Conference on Engineering Technology and Applied Sciences, Afyon, Turkey, 21 April - 22 October 2016, pp.362-369
- IX. **A multi-objective artificial bee colony approach to feature selection using fuzzy mutual information**
Hancer E., XUE B., ZHANG M., KARABOĞA D., AKAY B.
IEEE Congress on Evolutionary Computation, CEC 2015, Sendai, Japan, 25 - 28 May 2015, pp.2420-2427
- X. **İşlemci Çizelgelemesi için Karınca Koloni Yaklaşımı**
AKAY B., KARABOĞA D.
Akıllı Sistemlerde Yenilikler ve Uygulamaları (ASYU) 2012, Trabzon, Türkiye,, Trabzon, Turkey, 1 - 04 July 2012, pp.111-115
- XI. **Structural Optimization of Wavelet Packets using Swarm Algorithms**
AKAY B., KIRMIZI I.
IEEE International Conference on Fuzzy Systems (FUZZ-IEEE) / International Joint Conference on Neural Networks (IJCNN) / IEEE Congress on Evolutionary Computation (IEEE-CEC) / IEEE World Congress on Computational Intelligence (IEEE-WCCI), Brisbane, Australia, 10 - 15 June 2012

- XII. **2-Opt Based Artificial Bee Colony Algorithm For Solving Traveling Salesman Problem**
AKAY B., AYDOĞAN E., KARACAN L.
2nd World Conference on Information Technology (WCIT-2011), Antalya, Turkey, Turkey, 1 - 04 November 2011, pp.666-672
- XIII. **Wavelet Packets Optimization using Artificial Bee Colony Algorithm**
AKAY B., KARABOĞA D.
IEEE Congress on Evolutionary Computation (CEC), Louisiana, United States Of America, 5 - 08 June 2011, pp.89-94
- XIV. **Solving Integer Programming Problems by Using Artificial Bee Colony Algorithm**
AKAY B., KARABOĞA D.
11th Congress of the Italian-Association-for-Artificial-Intelligence, Reggio Emilia, Italy, 9 - 12 December 2009, vol.5883, pp.355-364
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Memberships / Tasks in Scientific Organizations

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