Tansel Dökeroğlu, Prof.Dr.

RESEARCH INTERESTS

Parallel computing, discrete (multi-objective)-optimization, metaheuristic algorithms, parallel machine learning algorithms, feature selection, bigdata analytics.

EDUCATION

Ph.D., Computer Engineering:

- Thesis Title : Multiobjective Cloud Data Warehouse Design with Virtual Resource Assignment
- Thesis Advisor: Prof. Dr. Ahmet Coşar
- Department of Computer Engineering, METU University, Ankara, Turkey, September 2014.

M.S., Software Engineering:

- Thesis Title: A verification tool for data security.
- Thesis Advisor: Halit Oğuztüzün,
- Department of Computer Engineering, METU University, Ankara, Turkey.

B.S., Mechanical Engineering:

- Department of Mechanical Eng., Turkish Defence University, Ankara, Turkey, 1991,

WORK EXPERIENCE

- 1992-2002 General Staff HQ CIS Department Software Developer
- 2002-2004 Land Force HQ Decision Support Department Project Manager
- 2004-2007 General Staff HQ CIS Department System Administrator
- 2007-2008 Ministry of Defence CIS Department Database Administrator
- 2008-2014 Land Force HQ Distance Learning Center Software Developer and Sytem Manager
- 2014-2015 Simsoft Research and Development Department Director, Turkey
- 2015-2018 THK University Computer Engineering Department, Turkey
- 2018-2020 TED University Computer Engineering Department, Turkey
- 2020-2021 Founder of TED University Software Engineering Department, Turkey
- 2021- present Cankaya University Software Engineering Department

SCI Journal Publications

- Dokeroglu, T. (2023). A new parallel multi-objective Harris hawk algorithm for predicting the mortality of COVID-19 patients. PeerJ Computer Science, 9, e1430.
- Dokeroglu, T., & Ozdemir, Y. S. (2023). A new robust Harris Hawk optimization algorithm for large quadratic assignment problems. Neural Computing and Applications, 35(17), 12531-12544.
- Dokeroglu, T., Deniz, A., and Kiziloz H. (2022). A comprehensive survey on recent metaheuristics for feature selection. Neurocomputing.
- Dokeroglu, T., & Sevinc, E. (2022). An island parallel Harris hawks optimization algorithm. Neural Computing and Applications, 1-28. Springer.
- Deniz, A., Kiziloz, H. E., Sevinc, E., & Dokeroglu, T. (2022). Predicting the severity of COVID-19 patients using a multi-threaded evolutionary feature selection algorithm. Expert Systems, e12949.
- Dokeroglu, T., Deniz, A., & Kiziloz, H. E. (2022). A robust multiobjective Harris' Hawks Optimization algorithm for the binary classification problem. Knowledge-Based Systems, 107219.
- Dokeroglu, T., & Sevinc, E. (2021). Memetic Teaching–Learning-Based Optimization algorithms for large graph coloring problems. Engineering Applications of Artificial Intelligence, 102, 104282.
- Karagoz, G.N. , Yazici A., Dokeroglu T.and Cosar A., (2020). "Analysis of Multiobjective Algorithms for the Classification of Multi-Label Video Datasets," in IEEE Access, vol. 8, pp. 163937-163952.
- Karagoz, G. N., Yazici, A., Dokeroglu, T., & Cosar, A. (2020). A new framework of multi-objective evolutionary algorithms for feature selection and multi-label classification of video data. International JMLC, 1-19.
- Dokeroglu, T., Pehlivan, S., & Avenoglu, B. (2020). Robust parallel hybrid artificial bee colony algorithms for the multi-dimensional numerical optimization. The Journal of Supercomputing, 1-21.
- Dokeroglu, T., Sevinc, E., Kucukyilmaz, T., Cosar, A. (2019). A survey on new generation metaheuristics. Computers & Industrial Engineering. Elsevier.
- Sevinc E., Dokeroglu, T. (2019). A novel parallel local search algorithm for the maximum vertex weight clique problem in large graphs. Soft Computing. Springer.
- Dokeroglu, T., Sevinc E. (2019). A novel hybrid teaching-learning-based optimization algorithm for the classification of data by using extreme learning machines. Turkish Journal of Electrical Engineering & Computer Sciences, 27(2), 1523-1533.
- Dokeroglu, T., & Sevinc, E. (2019). Evolutionary parallel extreme learning machines for the data classification problem. Computers & Industrial Engineering, 130, 237-249. Elsevier.
- Dokeroglu, T., Sevinc, E., & Cosar, A. (2019). Artificial bee colony optimization for the quadratic assignment problem. Applied Soft Computing, 76, 595-606.
- Kiziloz, H. E., Deniz, A., Dokeroglu, T., & Cosar, A. (2018). Novel multiobjective TLBO algorithms for the feature subset selection problem. Neurocomputing, 306, 94-107.
- Kiziloz, H. E., & Dokeroglu, T. (2018). A robust and cooperative parallel tabu search algorithm for the maximum vertex weight clique problem. Computers & Industrial Engineering, 118, 54-66. Elsevier.
- Altay, B., Dokeroglu, T., & Cosar, A. (2018). Context-sensitive and keyword density-based supervised machine learning techniques for malicious webpage detection. Soft Computing, 1-15.
- Dokeroglu, T., & Mengusoglu, E. (2017). A self-adaptive and stagnation-aware breakout local search algorithm on the grid for the Steiner tree problem with revenue, budget and hop constraints. Soft Computing, 1-19.

- Deniz-Kiziloz, F.A., Kiziloz, H.E., Dokeroglu, T., Cosar, A. (2017). Robust multiobjective evolutionary machine learning algorithms for the feature subset selection in binary classification. Neurocomputing. Elsevier
- Dokeroglu T., Cosar A, (2016) A Novel Multistart Hyper-heuristic Algorithm on the Grid for the Quadratic Assignment Problem. Journal of Engineering Applications of Artificial Intelligence.
- Dokeroglu T., (2015) Hybrid teaching-learning-based optimization algorithms for the Quadratic Assignment Problem, Journal of Computers and Industrial Engineering.
- Dokeroglu Tansel, Bayir Murat Ali, Cosar Ahmet (2015) Robust heuristic algorithms for exploiting the common tasks of relational cloud database queries. Journal of Applied Soft Computing.
- Dokeroglu T., Cosar, T. (2014) Optimization of one-dimensional bin packing problem with island parallel grouping genetic algorithms, Journal of Computers and Industrial Engineering.
- Dokeroglu T., Ozal Serkan, Bayir Murat Ali, Cinar M.Serkan, Cosar A., (2014) Improving the performance of Hadoop Hive by sharing scan and computation tasks, Journal of Cloud Computing: Advances, Systems and Applications.
- Tosun, U., Dokeroglu, T., and Cosar, A., (2013) A Robust Island Parallel Genetic Algorithm for the Quadratic Assignment Problem, International Journal of Production Research (1-17).

Conference and workshop publications

- Ozcan, S.O., Dokeroglu, T., Cosar, A., and Yazici, A. A novel grouping genetic algorithm for the one-dimensional bin packing problem on GPU, Poland, Krakow, ISCIS 2016
- Sert, S.A., Yazici,A., Dokeroglu, Adnan (2016). Fuzzy Processing in Surveillance Wireless Sensor Networks, IEEE World Congress on Computational Intelligence (IEEE WCCI), Vancouver, Canada
- Dokeroglu, T., Cınar, M. S., Sert, S. A., & Cosar, A., Yazıcı, A. (2016). Improving Hadoop Hive Query Response Times Through Efficient Virtual Resource Allocation. In Flexible Query Answering Systems 2015 (pp. 215-225).
- Beyaz, M., Dokeroglu, T., Cosar A. (2015), "Robust Hybrid Heuristic Algorithms for the Multiobjective Load Balancing of 2D Bin Packing Problems",ISCIS, September 21-25, Imperial College, London.
- Dokeroglu, T., Cosar, A. (2014), "Integer Linear Programming Solution Model for the Multiple Query Optimization Problem" ISCIS October 27-28th, 2014, Krakow, Poland.
- Ozkok, A., Ercingoz,A, Donmez,H., Dokeroglu, T. (2015), "SimBusPro: A Simulation-Based Decision Support Tool used for the Optimization of Business Processes running on the Cloud" MIPRO 2015 - 38th International Convention, May 25-29, Crotia.
- Dokeroglu, T. (supervised by Ahmet Cosar) (2012). Parallel Genetic Algorithms for the Optimization of Multi-Way Chain Join Queries of Distributed Databases 38th VLDB Ph.D. Workshop, August 27-31, Istanbul/TURKEY.
- Dokeroglu, T., Tosun, U., and Cosar, A. (2012). Particle Swarm Intelligence as a Novel Heuristic for the Optimization of Distributed Database Queries, The 6th International Conference on Application of Information and Communication Technologies AICT2012 Georgia, Tbilisi, 17-19 .
- Dokeroglu, T and Cosar, A. (2011). Dynamic Programming with Ant Colony Optimization Metaheuristic for The Optimization of Distributed Database Queries, Proceedings of the 26th ISCIS, London, UK.
- Dokeroglu,T., Tosun, U., and Cosar, A. (2013). Evaluating the Performance of Recombination Operators with Island Parallel Genetic Algorithms, International Federation of Automatic Control (IFAC), Saint Petersburg, Russia.

- Dokeroglu, T. Tosun, U., and Cosar, A. (2012). Parallel Optimization with Mutation Operator for the Quadratic Assignment Problem Proceedings of WIVACE, Italian Workshop on Artificial Life and Evolutionary Computation, Parma/Italy.
- Dökeroğlu, T., Topçu, O., and Oğuztüzün, H. 2008. HLA Federasyon Mimarileri İçin Federe Arayüz Spesifikasyon Kütüphanesi. 2. Ulusal Yazılım Mimarisi Konferansı 11-12 Eylül. Ege Üniversitesi. İzmir.
- Tosun, U., Dokeroglu, T., and Cosar, A. (2012). Heuristic Algorithms for Fragment Allocation in a Distributed Database System, 27th ISCIS, October 3-5, Paris/France.

PROJECTS INVOLVED

- Command and Control Management Systems of Turkish Land Forces.
- Turkish Land Forces Distance Learning Center and Digital library Management Tool
- European Uninon 7th Frame SCI-BUS Business Process Simulation Software, as a project expert
- Horizon 2020 Cloud-SME project
- KARMA, TÜBİTAK Educating teachers in a virtual environment
- Cloud-based Business Process Management Tool (Arena-like)
- NATO meetings LINK-16 project (England), 2001

ACADEMIC EXPERIENCE

- Part Time Instructor, Dept. of Computer Engineering, Middle East Technical University (METU), Ankara, Turkey, 2014 - Present.
- Head of THK Computer Engineering Department, 2016-2018.
- Computer Engineering Department TED University/Ankara, 2018-2020
- Founder of Software Engineering Department TED University/Ankara, 2020-2021
- Software Engineering Department Cankaya University/Ankara, 2021-
- Referee at TÜBİTAK (Scıentific and Technological Research Institution) projects.

THESIS ADVISED

- M.Sc. Elif Yalcinkaya, Turkce Yazilim Gereksinimleri icin Yeni Bir Bicimsel Gozden Gecirme Araci (2018)
- M.Sc. Zahraa Mohammed Malik MALIK, Gozetimsiz Makine ogrenim Teknikleri ile Miktara Dayali Negatif Birliktelik Kural Madenciligi (2018)
- M.Sc. Mohanad MAHROUS, Sol Ventril Hipertrofi Hastaliginin Teshisi icin Yeni Bir Bulanik Kural Tabanli Sistem (2018)
- M.Sc. Ali Anwer, Derin ogrenme teknikleri ile gogus kanseri teshisi (2017)
- M.Sc. Saddam Raheem Salih AL-Saadi, Application of Mean Gain Ratio (MGR) Model for the Clustering of Electrical Gnerator failures (2017)
- M.Sc. Firdevsi Ayca Deniz-Kiziloz, Multiobjective Evolutionary Machine Learning Algorithms for the Feature Subset Selection of Binary Classification (2016)
- M.Sc. Betul Altay Context-sensitive and keyword density based supervised machine learning techniques for detection of malicious webpages (2016)
- M.Sc. Yagmur Aksan, A stagnation aware cooperative Breakout Local Search Algorithm for the QAP (2016)
- M.Sc. Muhammed Beyaz, Hybrid Metaheuristic Algorithms for Single and Multiobjective 2D Bin Packing Problem (2015)
- M.Sc. Yusuf Yazici, Sanallastirilmis Grafik islemci Birimlerinin Maliyet Etkinlik Analizi (2016)

TEACHING

- Software Engineering
- Software Design Patterns
- Software Quality Assurance and Testing
- Advanced Software Testing Tools
- Java programming
- Discrete Math
- Web Development
- Parallel Computing
- Relational Databases
- Introduction to Computer Engineering
- Algorithms and Data Structures
- Advanced Algorithms for Engineers
- Mobile Computing
- Introduction to C Programming
- Data Visualization

Reviewer @

- IEEE Transactions on Evolutionary Computation
- IEEE Transactions on Systems, Man, and Cybernetics, Part C: Applications and Reviews
- IEEE Transactions on Cybernetics, IEEE
- IEEE Transactions on Fuzzy Systems
- Applied Soft Computing Journal, Elsevier
- Computers & Industrial Engineering, Elsevier
- International Journal of Machine Learning and Cybernetics, Springer
- Concurrency and computation: practice and experience, Wiley Elsevier
- Journal of Engineering Applications of Artificial Intelligence, Elsevier
- Expert Systems with Applications
- The Journal of Supercomputing - Springer
- INFOR: Information Systems and Operational Research, Taylor and Francis Online
- International Journal of Production Research, Taylor and Francis
- Kybernetes (2018) Emerald Publishing
- Engineering Optimization - Taylor & Francis Online
- Applied Mathematical Modelling, Elsevier
- Journal of Cloud Computing: Advances, Systems and Applications, Springer
- Journal of Pattern Recognition Letters, Elsevier
- Measurement, Journal of the International Measurement Confederation, Elsevier
- Journal of Intelligent Management Systems, Springer
- British Journal of Mathematics & Computer Science
- USMOS Ulusal Modelleme ve Simulasyon Konferansi
- MIM 2016 Conference (Manufacturing Modelling, Management, and Control), University of Technology of Troyes, FRANCE
- 25. Sinyal isleme ve iletisim Uygualama Kurultayi (siu), 15-18 May 2017, Antalya / Turkey
- IOBTDS, Conference on Internet of Things, Big data and Security, 2018, Portugal

Computer skills

- Programming Languages: Java, C/C++, Pascal, SQL, HTML, ASP. NET, Delphi, C#, parallel programming with MPI, OpenMP, Junit, Mockito, Jmeters, Selenium.
- Operating Systems: Windows, Linux
- Database Management Systems: Microsoft SQL Server, Oracle
- Tools: MS Project Manager, Eclipse IDE, MODDLE (distance learning), redmine

LANGUAGES

- Turkish (native)
- Fluent in English

REFERENCES

Prof. Dr. Adnan Yazıcı
Computer Engineering Department,
METU, TR-06800, Ankara, Turkey
Phone: +90 (312) 210 55 83
yazici@ceng.metu.edu.tr
http://www.ceng.metu.edu.tr/~yazici/

Prof.Dr. Halit Oğuztüzün
Computer Engineering Department,
METU, TR-06800, Ankara, Turkey
Phone: +90 (312) 210 55 87
oguztuzn@ceng.metu.edu.tr
http://www.ceng.metu.edu.tr/~oguztuzn

Prof.Dr. Hakkı Toroslu
Computer Engineering Department,
METU, TR-06800, Ankara, Turkey
Phone: +90 (312) 210 55 85
toroslu@ceng.metu.edu.tr
https://user.ceng.metu.edu.tr/~toroslu/