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Personal Information

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Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (Dr), Turkey 2003 - 2006

Post Graduate, Gazi University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (YI) (Tezli), Turkey 2001 - 2003

Under Graduate, Gazi University, Mühendislik Fakültesi, Endüstri Mühendisliği Bölümü, Turkey 1997 - 2001

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Kullanıcı merkezli ürün tasarımı için bütünleşik bir zeki model: Cep telefonları üzerine bir uygulama, Gazi University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (Dr), 2006

Post Graduate, Elle Malzeme Kaldırma İşlerinin Yapıldığı İş İstasyonlarının Tasarımında Genetik Algoritma Yaklaşımı, Gazi University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (YI) (Tezli), 2003

Research Areas

Artificial Intelligence, Computer Learning and Pattern Recognition, Fuzzy Sets and Systems, Industrial Engineering

Academic Titles / Tasks

Professor, Gazi University, Mühendislik Fakültesi, Endüstri Mühendisliği, 2021 - Continues

Associate Professor, Gazi University, Mühendislik Fakültesi, Endüstri Mühendisliği, 2012 - 2021

Assistant Professor, Gazi University, Mühendislik Fakültesi, Endüstri Mühendisliği Bölümü, 2009 - 2012

Research Assistant, Gazi University, Mühendislik Fakültesi, Endüstri Mühendisliği Bölümü, 2001 - 2009

Courses

BİLGİ KEŞFİ, Post Graduate, 2016 - 2017, 2017 - 2018

BULANIK KÜME TEORİSİ, Post Graduate, 2016 - 2017, 2017 - 2018

Advising Theses

- AKAY D., Dokunsal duyulara yönelik etiketli duygusal büyüklük ölçeği ve bulanık ölçek geliştirme, Post Graduate, B.UZGUR(Student), 2019
- AKAY D., İşletmelerde süreç madenciliği tekniği kullanılarak isy sistematiğinin yazılım destekli bir sektörel uygulaması örneği-İnşaat sektörü, Post Graduate, B.GEREK(Student), 2017
- AKAY D., Linguistic summarization of structured patent data, Post Graduate, E.YILDIZ(Student), 2017
- AKAY D., Application Of Bpm Systematics By Using Process Mining In Enterprises With A Software-Assisted Industrial Application Example Construction Company, B.Gerek(Student), 2017
- AKAY D., Linguistic Summarization In Information Networks, Doctorate, S.GENÇ(Student), 2016
- AKAY D., Grey Relational Analysis Between Turkey'S Macroeconomic Indicators And Domestic Savings, E.Duran(Student), 2016
- AKAY D., Türkiye'nin makroekonomik göstergeleri ile yurtiçi tasarrufları arasında gri ilişkisel analiz, Post Graduate, E.DURAN(Student), 2016
- AKAY D., An Extension Of Fuzzy Linguistic Summarization Considering Probabilistic Uncertainty, Post Graduate, S.AYDOĞAN(Student), 2015
- AKAY D., Second Generation Collaborative Planning, Forecasting And Replenishment Methodology With Business Analytics Support, A.DEMİRAY(Student), 2015
- AKAY D., İş analitiği destekli ikinci nesil işbirlikçi planlama, tahmin ve ikmal metodolojisi, Doctorate, A.DEMİRAY(Student), 2015
- AKAY D., Zaman serilerinin dilsel özetlenmesi: Avrupa Brent Petrol spot piyasa fiyatı üzerine bir uygulama ve Türkiye perspektifinden yorumlar, Post Graduate, H.HATİPOĞLU(Student), 2014
- AKAY D., Zaman serilerinin dilsel özetlenmesi: Avrupa Brent Petrol Spot Piyasa fiyatı üzerine bir uygulama ve Türkiye perspektifinden yorumlar, H.Hatipoğlu(Student), 2014
- AKAY D., Linguistic summarization with interval type-2 fuzzy sets, F.Emre(Student), 2013
- AKAY D., Aralıklı tip-2 bulanık kümelerle dilsel özetleme, Doctorate, F.EMRE(Student), 2013
- AKAY D., Classification of risks of low back disorders with support vector machines, Post Graduate, M.ERDEM(Student), 2012

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Developing a Labeled Affective Magnitude scale and Fuzzy Linguistic scale for tactile feeling**
AKAY D., Duran B. U. , Duran E., Henson B., BORAN F. E.
HUMAN FACTORS AND ERGONOMICS IN MANUFACTURING & SERVICE INDUSTRIES, vol.31, no.1, pp.13-26, 2021
(Journal Indexed in SCI)
- II. **A possibilistic approach for interval type-2 fuzzy linguistic summarization of time series**
Ozdogan I., BORAN F. E. , AKAY D.
ARTIFICIAL INTELLIGENCE REVIEW, 2021 (Journal Indexed in SCI)
- III. **Concept design evaluation by using Z-axiomatic design**
AYDOĞAN S., Gunay E. E. , AKAY D., Kremer G. E. O.
COMPUTERS IN INDUSTRY, vol.122, 2020 (Journal Indexed in SCI)
- IV. **Linguistic summarization to support supply network decisions**
AYDOĞAN S., Okudan Kremer G. E. , AKAY D.
JOURNAL OF INTELLIGENT MANUFACTURING, 2020 (Journal Indexed in SCI)
- V. **Some picture fuzzy Bonferroni mean operators with their application to multicriteria decision making**
ATEŞ F., AKAY D.

- INTERNATIONAL JOURNAL OF INTELLIGENT SYSTEMS, vol.35, no.4, pp.625-649, 2020 (Journal Indexed in SCI)
- VI. **ANFIS and Deep Learning based missing sensor data prediction in IoT**
GÜZEL M., KÖK İ., AKAY D., Ozdemir S.
CONCURRENCY AND COMPUTATION-PRACTICE & EXPERIENCE, vol.32, no.2, 2020 (Journal Indexed in SCI)
- VII. **Linguistic summarization of fuzzy social and economic networks: an application on the international trade network**
Genc S., AKAY D., BORAN F. E. , Yager R. R.
SOFT COMPUTING, vol.24, no.2, pp.1511-1527, 2020 (Journal Indexed in SCI)
- VIII. **Fuzzy Quantification and Opinion Mining on Qualitative Data using Feature Reduction**
Dundar B., AKAY D., BORAN F. E. , Ozdemir S.
INTERNATIONAL JOURNAL OF INTELLIGENT SYSTEMS, vol.33, no.9, pp.1840-1857, 2018 (Journal Indexed in SCI)
- IX. **An Extension of Fuzzy Linguistic Summarization Considering Probabilistic Uncertainty**
AYDOĞAN S., AKAY D., BORAN F. E. , Yager R. R.
INTERNATIONAL JOURNAL OF UNCERTAINTY FUZZINESS AND KNOWLEDGE-BASED SYSTEMS, vol.26, no.2, pp.195-215, 2018 (Journal Indexed in SCI)
- X. **Fuzzy Linguistic Summarization with Genetic Algorithm: An Application with Operational and Financial Healthcare Data**
Altıntop T., Yager R. R. , AKAY D., BORAN F. E. , ÜNAL M.
INTERNATIONAL JOURNAL OF UNCERTAINTY FUZZINESS AND KNOWLEDGE-BASED SYSTEMS, vol.25, no.4, pp.599-620, 2017 (Journal Indexed in SCI)
- XI. **A holistic and structured CPFR roadmap with an application between automotive supplier and its aftermarket customer**
Demiray A., AKAY D., Tekin S., BORAN F. E.
INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, vol.91, pp.1567-1586, 2017 (Journal Indexed in SCI)
- XII. **Grey relational analysis between Turkey's macroeconomic indicators and domestic savings**
Duran E., Duran B. U. , AKAY D., BORAN F. E.
GREY SYSTEMS-THEORY AND APPLICATION, vol.7, no.1, pp.45-59, 2017 (Journal Indexed in SCI)
- XIII. **An overview of methods for linguistic summarization with fuzzy sets**
BORAN F. E. , AKAY D., Yager R. R.
EXPERT SYSTEMS WITH APPLICATIONS, vol.61, pp.356-377, 2016 (Journal Indexed in SCI)
- XIV. **Classification of Risks of Occupational Low Back Disorders with Support Vector Machines**
ERDEM M., BORAN F. E. , AKAY D.
HUMAN FACTORS AND ERGONOMICS IN MANUFACTURING & SERVICE INDUSTRIES, vol.26, no.5, pp.550-558, 2016 (Journal Indexed in SCI)
- XV. **MOORA-BASED TAGUCHI OPTIMIZATION FOR SELECTION OF MURATA VORTEX SPINNER MACHINE PARAMETERS**
AKGÜL E., KIZILKAYA AYDOĞAN E., AKAY D., TÜRKSOY H. G.
TEKSTİL VE KONFEKSİYON, vol.26, no.3, pp.249-255, 2016 (Journal Indexed in SCI)
- XVI. **A Probabilistic Framework for Interval Type-2 Fuzzy Linguistic Summarization**
BORAN F. E. , AKAY D., Yager R. R.
IEEE TRANSACTIONS ON FUZZY SYSTEMS, vol.22, no.6, pp.1640-1653, 2014 (Journal Indexed in SCI)
- XVII. **Linguistic Summarization of Europe Brent Spot Price Time Series Along with the Interpretations from the Perspective of Turkey**
Hatipoğlu H., BORAN F. E. , Avci M., AKAY D.
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- XVIII. **A Generic Method for the Evaluation of Interval Type-2 Fuzzy Linguistic Summaries**
BORAN F. E. , AKAY D.
IEEE TRANSACTIONS ON CYBERNETICS, vol.44, no.9, pp.1632-1645, 2014 (Journal Indexed in SCI)
- XIX. **Making Tactile Textures with Predefined Affective Properties**
Elkharraz G., Thumfart S., AKAY D., Eitzinger C., Henson B.

- IEEE TRANSACTIONS ON AFFECTIVE COMPUTING, vol.5, no.1, pp.57-70, 2014 (Journal Indexed in SCI)
- XX. **A biparametric similarity measure on intuitionistic fuzzy sets with applications to pattern recognition**
BORAN F. E. , AKAY D.
INFORMATION SCIENCES, vol.255, pp.45-57, 2014 (Journal Indexed in SCI)
- XXI. **The Evaluation of Power Plants Investment Alternatives with Grey Relational Analysis Approach for Turkey**
AKAY D., Boran F. E. , YILMAZ M., Atak M.
ENERGY SOURCES PART B-ECONOMICS PLANNING AND POLICY, vol.8, no.1, pp.35-43, 2013 (Journal Indexed in SCI)
- XXII. **ANFIS modeling for predicting affective responses to tactile textures**
AKAY D., Chen X., Barnes C., Henson B.
HUMAN FACTORS AND ERGONOMICS IN MANUFACTURING & SERVICE INDUSTRIES, vol.22, no.3, pp.269-281, 2012 (Journal Indexed in SCI)
- XXIII. **Grey relational analysis based on instance based learning approach for classification of risks of occupational low back disorders**
AKAY D.
SAFETY SCIENCE, vol.49, pp.1277-1282, 2011 (Journal Indexed in SCI)
- XXIV. **Personnel Selection Based on Intuitionistic Fuzzy Sets**
BORAN F. E. , Genc S., AKAY D.
HUMAN FACTORS AND ERGONOMICS IN MANUFACTURING & SERVICE INDUSTRIES, vol.21, no.5, pp.493-503, 2011 (Journal Indexed in SCI)
- XXV. **Conceptual design evaluation using interval type-2 fuzzy information axiom**
AKAY D., KULAK O., Henson B.
COMPUTERS IN INDUSTRY, vol.62, no.2, pp.138-146, 2011 (Journal Indexed in SCI)
- XXVI. **Interval multiplicative transitivity for consistency, missing values and priority weights of interval fuzzy preference relations**
Genc S., BORAN F. E. , AKAY D., Xu Z.
INFORMATION SCIENCES, vol.180, no.24, pp.4877-4891, 2010 (Journal Indexed in SCI)
- XXVII. **Modeling of an Intermediate Temperature Solid Oxide Fuel Cell Using the Adaptive Neuro-Fuzzy Inference System (ANFIS)**
Vural Y., AKAY D., Pourkashanian M., Ingham D. B.
JOURNAL OF FUEL CELL SCIENCE AND TECHNOLOGY, vol.7, no.3, 2010 (Journal Indexed in SCI)
- XXVIII. **A multi-criteria intuitionistic fuzzy group decision making for supplier selection with TOPSIS method**
Boran F. E. , Genc S., Kurt M., Akay D.
EXPERT SYSTEMS WITH APPLICATIONS, vol.36, no.8, pp.11363-11368, 2009 (Journal Indexed in SCI)
- XXIX. **Comparison of direct and iterative artificial neural network forecast approaches in multi-periodic time series forecasting**
HAMZAÇEBİ C., AKAY D., Kutay F.
EXPERT SYSTEMS WITH APPLICATIONS, vol.36, no.2, pp.3839-3844, 2009 (Journal Indexed in SCI)
- XXX. **A neuro-fuzzy based approach to affective design**
AKAY D., KURT M.
INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, vol.40, pp.425-437, 2009 (Journal Indexed in SCI)
- XXXI. **Ant Colony Optimization Approach for Classification of Occupational Low Back Disorder Risks**
AKAY D., TOKSARI M. D.
HUMAN FACTORS AND ERGONOMICS IN MANUFACTURING, vol.19, no.1, pp.1-14, 2009 (Journal Indexed in SCI)
- XXXII. **NEFCLASS based extraction of fuzzy rules and classification of risks of low back disorders**
AKAY D., AKCAYOL M. A. , KURT M.
EXPERT SYSTEMS WITH APPLICATIONS, vol.35, no.4, pp.2107-2112, 2008 (Journal Indexed in SCI)
- XXXIII. **A LITERATURE REVIEW ON USER CENTERED DESIGN AND PRODUCT USABILITY**

AKAY D., KURT M.

JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.23, no.2, pp.295-304, 2008 (Journal Indexed in SCI)

XXXIV. Collaborative tool for solving human factors problems in the manufacturing environment: the Theory of Inventive Problem Solving Technique (TRIZ) method

AKAY D., Demiray A., Kurt M.

INTERNATIONAL JOURNAL OF PRODUCTION RESEARCH, vol.46, no.11, pp.2913-2925, 2008 (Journal Indexed in SCI)

XXXV. Grey prediction with rolling mechanism for electricity demand forecasting of Turkey

AKAY D., Atak M.

ENERGY, vol.32, no.9, pp.1670-1675, 2007 (Journal Indexed in SCI)

XXXVI. Evaluation of product design concepts using grey-fuzzy information axiom

AKAY D., KULAK O.

JOURNAL OF GREY SYSTEM, vol.19, no.3, pp.221-234, 2007 (Journal Indexed in SCI)

Articles Published in Other Journals

I. Linguistic Summarization of Structured Patent Data

Esen Yıldız İ., AYDOĞAN S., BORAN F. E. , AKAY D.

International Journal of Computer and Information Engineering, vol.11, no.9, pp.1024-1027, 2017 (Refereed Journals of Other Institutions)

II. Trafik Kazalarının Birliktelik Kuralları ile Analizi

Gürdoğan D., AKAY D., KURT M.

Gazi Mühendislik Bilimleri Dergisi, vol.1, no.2, pp.265-284, 2015 (Other Refereed National Journals)

Books & Book Chapters

I. TÜSSİDE Yönetim Serisi: Uygulamalı Üretim Yönetimi El Kitabı

Kurt M., Akay D., Efe B.

in: İşletmelerde Ergonomi ve İş Etüdü, Osman Kulak, M. Bülent Durmuşoğlu, Editor, TÜBİTAK Yayınları, İstanbul, pp.95-133, 2014

Refereed Congress / Symposium Publications in Proceedings

I. Linguistic Summarization of Supply Network Interactions

AYDOĞAN S., GÜNAY E. E. , AKAY D., Kremer G.

10th International Symposium on Intelligent Manufacturing and Service Systems, Sakarya, Turkey, 9 - 11 September 2019

II. Decision-making with Z-Axiomatic Design

Aydoğan S., Akay D., Kremer G., Günay E. E. , Park K., Boran F. E.

2019 IISE Annual Conference, Florida, United States Of America, 19 - 21 May 2019

III. Forecasting Electricity Consumption in Turkey with Bayesian Polynomial Regression Analysis

ERDEM M., BULKAN S., AKAY D., BORAN F. E.

5. EUROPEAN CONFERENCE ON RENEWABLE ENERGY SYSTEMS, 27 - 30 August 2017

IV. Yapılandırılmış Patent Verilerinin Dilsel Özetlemesi

İÇDE E. Y. , AYDOĞAN S., BORAN F. E. , AKAY D.

37. Yöneylem Araştırması ve Endüstri Mühendisliği Ulusal Kongresi, Turkey, 5 - 07 July 2017

V. OPERASYONEL VE FİNANSAL SAĞLIK VERİSİ İÇİN BULANIK DİLSEL ÖZETLERİN GENETİK

ALGORİTMA İLE ÇIKARIMI

ALTINTOP T., AYDOĞAN S., AKAY D., BORAN F. E. , ÜNAL M.

Yöneylem Araştırması ve Endüstri Mühendisliği 36. Ulusal Kongresi, Turkey, 13 - 15 July 2016

- VI. **Ergonomik Kabza Tasarımı ve Uygulaması**
AKGÜL E., KIZILKAYA AYDOĞAN E., AKAY D., SINANOĞLU C.
3B Baskı Teknolojileri Uluslararası Sempozyumu, 5 - 07 May 2016, pp.51-56
- VII. **Opinion Mining and Fuzzy Quantification in Hotel Reviews**
Dundar B., Ozdemir S., AKAY D.
International Symposium on Networks, Computers and Communications (ISNCC), Hammamet, Tunisia, 11 - 13 May 2016
- VIII. **Linguistic summarization of restaurant evaluation data set**
Dündar B., AKAY D., ÖZDEMİR S.
4th International Fuzzy Systems Symposium, İstanbul, Turkey, 5 - 06 November 2015, pp.433-439
- IX. **Classification of patients at risk for CO poisoning in an emergency department with CHAID decision tree**
KELEŞ A., DEMİRCAN A., BİLDİK F., AYDOĞAN S., DÜZCE T., AKAY D.
15. Üretim Araştırmaları Sempozyumu, İzmir, Turkey, 14 - 16 October 2015, pp.1109-1113
- X. **Rüzgar Enerjisi için Tahmin Algoritmaları ve Kombinasyon Modelleri**
Bestil A., AKAY D., Küçük D.
35. Ulusal Yöneylem Araştırması ve Endüstri Mühendisliği Kongresi, Ankara, Turkey, 9 - 11 September 2015, pp.31
- XI. **Understanding Customers Affective Needs with Linguistic Summarization**
BORAN F. E. , EFE B., AKAY D., Henson B.
INTERNATIONAL CONFERENCE ON KANSEI ENGINEERING AND EMOTION RESEARCH KEER2014, 11 - 13 June 2014, pp.1235-1245
- XII. **Predicting Affective Properties of Tactile Textures Using Anfis Modelling**
Henson B., Akay D.
International Conference on Kansei Engineering and Emotion Research, Paris, France, 2 - 05 March 2010, pp.2271-2280
- XIII. **Machine Vision Approach to Predicting Affective Properties of Tactile Textures**
Henson B., Elkharraz ., Thumfart S., Akay D., Eitzinger C.
International Conference on Kansei Engineering and Emotion Research , Paris, France, 2 - 05 March 2010, pp.2261-2270
- XIV. **A Method for Solving Multi Criteria Intuitionistic Fuzzy Decision Making Problems**
Boran F. E. , Genç S., Akay D.
1st International Fuzzy Systems Symposium, Ankara, Turkey, 1 - 02 October 2009, pp.47-51
- XV. **TEXTURE FEATURES CORRESPONDING TO HUMAN TOUCH FEELING**
Elkharraz G., Thumfart S., AKAY D., Eitzinger C., Henson B.
16th IEEE International Conference on Image Processing, Cairo, Egypt, 7 - 10 November 2009, pp.1341-1342
- XVI. **Evaluation of product design concepts using grey-fuzzy information axiom**
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IEEE International Conference on Grey Systems and Intelligent Services, Nanjing, China, 18 - 20 November 2007, pp.1040-1045
- XVII. **The impact of automation and FMS in flight safety: Results of a survey and an experimental study**
AKAY D., ERASLAN E., Yoldas C.
7th International Conference on Engineering Psychology and Cognitive Ergonomics held at the HCI International 2007, Beijing, China, 22 - 27 July 2007, vol.4562, pp.631-632
- XVIII. **Gri İlişkisel Analiz Kullanarak Trafik Kaza Verileri Üzerine Bir Veri Madenciliği Uygulaması**
Çetinyokuş T., Akay D., Gökçen H.
YA/EM 2006 Yöneylem Araştırması / Endüstri Mühendisliği XXVI. Ulusal Kongresi, Kocaeli, Turkey, 3 - 05 July 2006
- XIX. **Usable menu design using hierarchical clustering analysis: A case study on designing bank internet websites**

Eraslan E., AKAY D., Aydogmus Ç.

35th International Conference on Computers and Industrial Engineering, ICC and IE 2005, İstanbul, Turkey, 19 - 22 June 2005, pp.611-616

Supported Projects

AKAY D., Project Supported by Higher Education Institutions, Enerji Tüketimi Verilerine İlişkin Zaman Serilerinin Dilsel Özetlenmesi, 2012 - 2014

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Akay D., Boran F. E. , TUBITAK Project, Tip 2 Bulanık Kümelerle Dilsel Özetleme TUBİTAK 1002 Hızlı Destek Programı Proje No 112M030, 2012 - 2013

AKAY D., Project Supported by Higher Education Institutions, Mesleki Bel Ağrısı Riskinin Destek Vektör Makineleriyle Sınıflandırılması, 2010 - 2011

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Citations

Total Citations (WOS):1610

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