

# FATİH EMRE BORAN

## PROF.

Email : emreboran@gazi.edu.tr

Office Phone : [+90 312 202 8854](tel:+903122028854)

### International Researcher IDs

ScholarID: 1IC0gYEAAAAJ

ORCID: 0000-0001-8404-3814

Publons / Web Of Science ResearcherID: AAI-9918-2021

ScopusID: 25723017700

Yoksis Researcher ID: 181752

## Learning Knowledge

Doctorate

2009 - 2013

Gazi University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (Dr), Turkey

Postgraduate

2007 - 2009

Gazi University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (YI) (Tezli), Turkey

Undergraduate

2002 - 2007

Gazi University, Mühendislik Fakültesi, Endüstri Mühendisliği Bölümü, Turkey

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, Aralıklı tip-2 bulanık kümelerle dilsel özetleme, Gazi University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (Dr), 2013

Postgraduate, Personel seçimi probleminde sezgisel bulanık küme uygulaması, Gazi University, Fen Bilimleri Enstitüsü, Endüstri Mühendisliği (YI) (Tezli), 2009

## Academic Titles / Tasks

Professor

2021 - Continues

Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği

Associate Professor

2018 - 2021

Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği

Associate Professor

2016 - 2018

Gazi University, Mühendislik Fakültesi, Endüstri Mühendisliği

## Supported Projects

1. Boran F. E., Rulman O., TUBITAK Project, Akıllı Üretim Varlıkları Yönetimi Sistemi, 2020 - 2022
2. Boran F. E., Rulman O., TUBITAK Project, Gerçek Zamanlı Operasyonel Zeka, 2018 - 2020
3. Kızılkaya Aydoğan E., Boran F. E., TUBITAK Project, GENETİK ALGORİTMA TABANLI GENÇ NESİL MOBİLYASINDA DUYGUSAL TASARIM, 2018 - 2019
4. Akay D., Boran F. E., TUBITAK Project, Tip 2 Bulanık Kümelerle Dilsel Özetleme TUBİTAK 1002 Hızlı Destek Programı Proje No 112M030, 2012 - 2013
5. Kurt M., Boran F. E., Project Supported by Higher Education Institutions, Personel Seçiminde Sezgisel Bulanık Küme Uygulamaları Bilimsel Araştırma Projesi BAP Gazi Üniversitesi Proje No 06 2009 12, 2009 - 2010

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

1. **A novel multi-objective decision-making model to determine optimum resource and capacity configuration for hybrid electricity generation systems: A comparative case study in Türkiye**  
Yalili M., MENLİK T., BORAN F. E.  
APPLIED ENERGY, vol.376, 2024 (SCI-Expanded)
2. **An integrated intuitionistic fuzzy set and stochastic multi-criteria acceptability analysis approach for supplier selection**  
İlbaş A., Gürdere A., Boran F. E.  
NEURAL COMPUTING & APPLICATIONS, vol.35, no.5, pp.3937-3953, 2023 (SCI-Expanded)
3. **An application of fuzzy linguistic summarization and fuzzy association rule mining to Kansei Engineering: a case study on cradle design**  
AKGÜL E., DELİCE Y., KIZILKAYA AYDOĞAN E., BORAN F. E.  
Journal of Ambient Intelligence and Humanized Computing, vol.13, no.5, pp.2533-2563, 2022 (SCI-Expanded)
4. **A novel distance measure on q-rung picture fuzzy sets and its application to decision making and classification problems**  
Pinar A., Boran F. E.  
ARTIFICIAL INTELLIGENCE REVIEW, vol.55, no.2, pp.1317-1350, 2022 (SCI-Expanded)
5. **A possibilistic approach for interval type-2 fuzzy linguistic summarization of time series**  
Ozdogan I., BORAN F. E., AKAY D.  
ARTIFICIAL INTELLIGENCE REVIEW, vol.54, no.5, pp.3991-4018, 2021 (SCI-Expanded)
6. **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 (SCI-Expanded)
7. **A q-rung orthopair fuzzy multi-criteria group decision making method for supplier selection based on a novel distance measure**  
Pinar A., BORAN F. E.  
INTERNATIONAL JOURNAL OF MACHINE LEARNING AND CYBERNETICS, vol.11, no.8, pp.1749-1780, 2020 (SCI-Expanded)
8. **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 (SCI-Expanded)
9. **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 (SCI-Expanded)
10. **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 (SCI-Expanded)

11. **A new approach for evaluation of renewable energy resources: A case of Turkey**  
BORAN F. E.  
ENERGY SOURCES PART B-ECONOMICS PLANNING AND POLICY, vol.13, no.3, pp.196-204, 2018 (SCI-Expanded)
12. **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 (SCI-Expanded)
13. **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 (SCI-Expanded)
14. **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 (SCI-Expanded)
15. **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 (SCI-Expanded)
16. **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 (SCI-Expanded)
17. **Forecasting Natural Gas Consumption in Turkey Using Grey Prediction**  
Boran F. E.  
ENERGY SOURCES PART B-ECONOMICS PLANNING AND POLICY, vol.10, no.2, pp.208-213, 2015 (SCI-Expanded)
18. **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 (SCI-Expanded)
19. **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.  
INTERNATIONAL JOURNAL OF INTELLIGENT SYSTEMS, vol.29, no.10, pp.946-970, 2014 (SCI-Expanded)
20. **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 (SCI-Expanded)
21. **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 (SCI-Expanded)
22. **Is Nuclear Power an Optimal Option for Electricity Generation in Turkey?**  
Boran F. E., Etoz M., Dizdar E.  
ENERGY SOURCES PART B-ECONOMICS PLANNING AND POLICY, vol.8, no.4, pp.382-390, 2013 (SCI-Expanded)
23. **A Multidimensional Analysis to Evaluate District Heating Systems**  
Boran F. E.  
ENERGY SOURCES PART B-ECONOMICS PLANNING AND POLICY, vol.8, no.2, pp.122-129, 2013 (SCI-Expanded)
24. **A Multidimensional Analysis of Electricity Generation Options with Different Scenarios in Turkey**  
Boran F. E., Dizdar E., Toktas I., Boran K., Eldem C., ASAL Ö.  
ENERGY SOURCES PART B-ECONOMICS PLANNING AND POLICY, vol.8, no.1, pp.44-55, 2013 (SCI-Expanded)

25. **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 (SCI-Expanded)
26. **Evaluation of Natural Gas Systems: A Comparison Study for Turkey**  
Boran F. E., Boran K.  
ENERGY SOURCES PART B-ECONOMICS PLANNING AND POLICY, vol.7, no.3, pp.222-229, 2012 (SCI-Expanded)
27. **A Fuzzy Multi Criteria Decision Making to Evaluate Energy Policy Based on an Information Axiom: A Case Study in Turkey**  
Boran F. E., Boran K., Dizdar E.  
ENERGY SOURCES PART B-ECONOMICS PLANNING AND POLICY, vol.7, no.3, pp.230-240, 2012 (SCI-Expanded)
28. **The Evaluation of Renewable Energy Technologies for Electricity Generation in Turkey Using Intuitionistic Fuzzy TOPSIS**  
Boran F. E., Boran K., Menlik T.  
ENERGY SOURCES PART B-ECONOMICS PLANNING AND POLICY, vol.7, no.1, pp.81-90, 2012 (SCI-Expanded)
29. **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 (SCI-Expanded)
30. **Optimization of module, shaft diameter and rolling bearing for spur gear through genetic algorithm**  
Mendi F., Baskal T., BORAN K., BORAN F. E.  
EXPERT SYSTEMS WITH APPLICATIONS, vol.37, no.12, pp.8058-8064, 2010 (SCI-Expanded)
31. **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 (SCI-Expanded)
32. **Multi-criteria Axiomatic Design Approach to Evaluate Sites for Grid-connected Photovoltaic Power Plants: A Case Study in Turkey**  
Boran F. E., Menlik T., Boran K.  
ENERGY SOURCES PART B-ECONOMICS PLANNING AND POLICY, vol.5, no.3, pp.290-300, 2010 (SCI-Expanded)
33. **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 (SCI-Expanded)

#### Articles Published in Other Journals

1. **SWOT and Fuzzy Preference Relations Analysis for the Integration of Turkish Armed Forces and Private Sector Logistics**  
Gürdere A., İlbaş A., Boran F. E.  
JOURNAL OF POLYTECHNIC-POLITEKNIK DERGISI, vol.1, no.1, pp.1-14, 2022 (ESCI)
2. **Modelling and analysis of future energy scenarios on the sustainability axis**  
Deger K., ozkaya M. G., Boran F. E.  
JOURNAL OF POLYTECHNIC-POLITEKNIK DERGISI, 2021 (ESCI)
3. **Selecting and Analyzing Appropriate Probability Distributions for Reliability of Electrical Transmission Lines**  
Kara Y., Canal M. R., Sefa İ., Boran F. E.  
Gazi Üniversitesi Fen Bilimleri Dergisi Part: C Tasarım ve Teknoloji, vol.9, no.1, pp.108-121, 2021 (Peer-Reviewed Journal)
4. **Linguistic Summarization of Structured Patent Data**  
Esen Yıldız İ., Aydoğan S., Boran F. E., Akay D.

INTERNATIONAL JOURNAL OF COMPUTER AND INFORMATION TECHNOLOGY, vol.11, no.9, pp.1024-1027, 2017  
(Peer-Reviewed Journal)

5. **Evaluation of Turkey's Renewable Energy Using Intuitionistic Fuzzy TOPSIS Method**  
Dangaci E., BORAN K., BORAN F. E.  
JOURNAL OF POLYTECHNIC-POLITEKNIK DERGISI, vol.20, no.3, pp.629-637, 2017 (ESCI)
6. **Sezgisel Bulanık TOPSIS Yöntemi Kullanılarak Ergonomik Ürün Konsept Seçimi**  
EFE B., BORAN F. E., KURT M.  
SÜLEYMAN DEMİREL ÜNİVERSİTESİ MÜHENDİSLİK BİLİMLERİ VE TASARIM DERGISİ, vol.3, no.3, pp.433-440,  
2015 (Peer-Reviewed Journal)
7. **An integrated intuitionistic fuzzy multi criteria decision making method for facility location selection**  
BORAN F. E.  
MATHEMATICAL AND COMPUTATIONAL APPLICATIONS, vol.16, no.2, pp.487-496, 2011 (Peer-Reviewed Journal)

## Books & Book Chapters

1. **3PL Service Provider Selection with q-Rung Orthopair Fuzzy Based CODAS Method**  
Pınar A., Boran F. E.  
in: q-Rung Orthopair Fuzzy Sets, Harish Garg, Editor, Springer, London/Berlin , Singapore, pp.285-301, 2022

## Refereed Congress / Symposium Publications in Proceedings

1. **APPLICATION OF MABAC METHOD IN ENERGY SOURCE SELECTION PROBLEM: THE CASE OF TURKIYE**  
Turan M., Boran F. E.  
5. INTERNATIONAL SCIENCES AND INNOVATION CONGRESS, Ankara, Turkey, 11 - 12 November 2022, pp.92-93
2. **Linguistic Summarization Of Natural Gas Spot Price**  
Tepecik S., İzgeç M. M., Boran F. E.  
4.ULUSLARARASI PALANDÖKEN BİLİMSEL ÇALIŞMALAR KONGRESİ , Erzurum, Turkey, 28 April 2022, pp.1
3. **Interval Type-2 Fuzzy Sets Linguistic Summarization using Sugeno Integral**  
ÖZDOĞAN İ., BORAN F. E.  
5th International Conference on Engineering Sciences (ICES 2019), 19 September 2019
4. **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
5. **Mevsimsel Ototegresif Entegre Hareketli Ortalama Yöntemi ve Destek Vektör Regresyon Yönetimi ile Talep Tahmini: Bir Tatlı Firmasının Gelecek Dönemlerdeki Lokum Üretim Miktarının Tahmini**  
EINLOU H., BORAN F. E.  
3rd International Symposium on Innovative Approaches in Scientific Studies, 19 - 22 April 2019
6. **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
7. **Yapılandırılmış Patent Verilerinin Dilsel Özetlemesi**  
İĞDE E. Y., AYDOĞAN S., BORAN F. E., AKAY D.  
37. Yöneylem Araştırması ve Endüstri Mühendisliği Ulusal Kongresi, Turkey, 5 - 07 July 2017
8. **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
9. **Sezgisel Bulanık TOPSIS Yöntemi Kullanılarak Ergonomik Ürün Konsept Seçimi**  
EFE B., BORAN F. E., KURT M.

21.ULUSAL ERGONOMİ KONGRESİ, Turkey, 2 - 05 October 2015

10. **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

## Academic and Administrative Experience

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2022 - Continues	<b>Rektörlüğe Bağlı Koordinatör</b>	Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği
2021 - 2022	<b>Assistant Coordinator of The Rectorate</b>	Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği

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## Courses

Yapay Zeka Teknikleri, Undergraduate, 2020 - 2021

## Advising Theses

Boran F. E., Application of advanced multi-criteria decision-making methods to the problem of energy source selection, Postgraduate, M.TURAN(Student), 2023

Boran F. E., Prediction of failures on light rail system, Postgraduate, S.GÜLERYÜZ(Student), 2023

Boran F. E., SWOT and fuzzy preference relations analysis for the integration of Turkish Armed Forces and private sector logistics, Doctorate, A.GÜRDERE(Student), 2023

Boran F. E., Tedarikçi seçimi için bütünlük SBTİ-SMAA-2 metodu uygulaması, Doctorate, A.İLBAŞ(Student), 2023

Boran F. E., Doğal Gaz Fiyatlarının Bulanık Kümelerle Dilsel Özetlenmesi, Postgraduate, S.TEPECİK(Student), 2022

BORAN F. E., Performance Evaluation Of Suppliers Based On Q-Rung Orthopair Fuzzy Sets, Doctorate, A.PINAR(Student), 2020

BORAN F. E., Sugeno integrali kullanılarak aralıklı Tip-2 bulanık dilsel özetleme, Postgraduate, İ.ÖZDOĞAN(Student), 2019

BORAN F. E., Demand Estimation By Sarram Method And Support Vector Regression Method Periods, Postgraduate, H.EINLOU(Student), 2019

## Activities in Scientific Journals

Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, Committee Member, 2021 - Continues

ICES Transactions on Neural and Fuzzy Computing, Assistant Editor/Section Editor, 2019 - Continues

IEEE Access, Assistant Editor/Section Editor, 2018 - Continues

Journal of Turkish Operations Management, Committee Member, 2017 - Continues

Energy Sources Part B-Economics Planning and Policy, Committee Member, 2010 - Continues

## Scientific Refereeing

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Gazi University, Turkey, September 2020

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Gazi University, Turkey, December 2019

IEEE TRANSACTIONS ON FUZZY SYSTEMS, SCI Journal, January 2019

IEEE TRANSACTIONS ON FUZZY SYSTEMS, SCI Journal, January 2019

## Metrics

Publication: 52

Citation (WoS): 2163

Citation (Scopus): 2618

H-Index (WoS): 15

H-Index (Scopus): 16

## Research Areas

Industrial Engineering