

# FATİH EMRE BORAN

## PROF.

Email : emreboran@gazi.edu.tr

### 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

Research Assistant  
2010 - 2016

Gazi University, Mühendislik Fakültesi, Endüstri Mühendisliği

Research Assistant  
2010 - 2010

Atilim University, Mühendislik Fakültesi, Endüstri Mühendisliği Bölümü

## Supported Projects

1. Boran F. E. , Rulman O., TUBITAK Project, Gerçek Zamanlı Operasyonel Zeka, 2018 - 2020
2. Kızılkaya Aydoğın E., Boran F. E. , TUBITAK Project, GENETİK ALGORİTMA TABANLI GENÇ NESİL MOBİLYASINDA DUYGUSAL TASARIM, 2018 - 2019
3. Akay D., Boran F. E. , TUBITAK Project, Tip 2 Bulanık Kümelerle Dilsel Özetleme TUBİTAK 1002 Hızlı Destek Programı Proje No 112M030, 2012 - 2013
4. 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

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

1. **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, 2021 (Journal Indexed in SCI)
2. **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)
3. **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)
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, 2021 (Journal Indexed in SCI)
5. **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 (Journal Indexed in SCI)
6. **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)
7. **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)
8. **An Extension of Fuzzy Linguistic Summarization Considering Probabilistic Uncertainty**  
Aydoğın 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)
9. **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 (Journal Indexed in SCI)

10. **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)
11. **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)
12. **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)
13. **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)
14. **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)
15. **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 (Journal Indexed in SCI)
16. **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)
17. **Linguistic Summarization of Europe Brent Spot Price Time Series Along with the Interpretations from the Perspective of Turkey**  
Hatipoglu H., BORAN F. E. , Avci M., AKAY D.  
INTERNATIONAL JOURNAL OF INTELLIGENT SYSTEMS, vol.29, no.10, pp.946-970, 2014 (Journal Indexed in SCI)
18. **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)
19. **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)
20. **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 (Journal Indexed in SCI)
21. **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 (Journal Indexed in SCI)
22. **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 (Journal Indexed in SCI)
23. **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)
  24. **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 (Journal Indexed in SCI)
  25. **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 (Journal Indexed in SCI)
  26. **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 (Journal Indexed in SCI)
  27. **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)
  28. **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 (Journal Indexed in SCI)
  29. **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)
  30. **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 (Journal Indexed in SCI)
  31. **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)

#### Articles Published in Other Journals

1. **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 (National Refreed University Journal)
2. **Evaluation of Turkey's Renewable Energy Using Intuitionistic Fuzzy TOPSIS Method**  
Damgaci E., BORAN K., BORAN F. E.

JOURNAL OF POLYTECHNIC-POLİTEKNİK DERGİSİ, vol.20, no.3, pp.629-637, 2017 (Journal Indexed in ESCI)

3. **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)

4. **Sezgisel Bulanık TOPSIS Yöntemi Kullanılarak Ergonomik Ürün Konsept Seçimi**

EFE B., BORAN F. E. , KURT M.

SÜLEYMAN DEMİREL ÜNİVERSİTESİ MÜHENDİSLİK BİLİMLERİ VE TASARIM DERGİSİ, vol.3, no.3, pp.433-440, 2015 (Other Refereed National Journals)

5. **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 (Other Refereed National Journals)

### Refereed Congress / Symposium Publications in Proceedings

1. **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

2. **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

3. **Mevsimsel Otoregresif 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

4. **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

5. **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

6. **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

7. **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

8. **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

---

2021 - Continues

**Assistant Coordinator  
of The Rectorate**

Gazi University, Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği

---

## Courses

Yapay Zeka Teknikleri, Undergraduate, 2020 - 2021

## Advising Theses

BORAN F. E. , Q seviyeli bulanık küme temelli tedarikçi performans değerlendirmesi, Doctorate, A.PINAR(Student), 2020

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

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

## Activities in Scientific Journals

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

IEEE Access, Assistant 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

## Citations

Total Citations (WOS):1524

h-index (WOS):12

## Research Areas

Industrial Engineering