

**GÜLDER  
KEMALBAY**

**ASSOC. PROF.**

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**Address :** Yıldız Teknik  
Üniversitesi, Davutpaşa  
Kampüsü, Fen-Edebiyat  
Fakültesi, İstatistik Bölümü,  
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**International Researcher  
IDs**

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ScopusID: 55598836500

Yoksis Researcher ID: 49237



## Learning Knowledge

Doctorate  
2009 - 2013

Izmir University Of Economics, Institute Of Science, Uygulamalı Matematik Ve  
İstatistik, Turkey

Postgraduate  
2005 - 2008

Yildiz Technical University, Graduate School Of Natural And Applied Sciences,  
İstatistik, Turkey

Undergraduate  
2003 - 2008

Yildiz Technical University, Fen Edebiyat Fakültesi, Matematik, Turkey

Undergraduate  
2001 - 2005

Yildiz Technical University, Fen Edebiyat Fakültesi, İstatistik, Turkey

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, Modifications of Bivariate Binomial Distribution and Conditional Bivariate Order Statistics , İzmir Ekonomi Üniversitesi, Fen Bilimleri Enstitüsü, Uygulamalı Matematik Ve İstatistik, 2013  
Postgraduate, Konveks Olmayan Çok Kriterli Optimizasyon ve Portföy Seçimi Problemi , Yıldız Teknik Üniversitesi, Graduate School of Natural and Applied Sciences, İstatistik, 2008

## Academic Titles / Tasks

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Associate Professor 2017 - Continues	Yildiz Technical University, Faculty Of Arts & Science, Department Of Statistics
Assistant Professor 2014 - 2017	Yildiz Technical University, Faculty Of Arts & Science, Department Of Statistics
Research Assistant PhD 2013 - 2014	Yildiz Technical University, Faculty Of Arts & Science, Department Of Statistics
Research Assistant 2005 - 2013	Yildiz Technical University, Faculty Of Arts & Science, Department Of Statistics

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## Supported Projects

1. KEMALBAY G., Kurtuluş E., Project Supported by Higher Education Institutions, Genetik Algoritma İle Sınıflama Analizi Üzerine Bir Araştırma, 2024 - Continues
2. Çerik T., Kemalbay G., TUBITAK Project, Genetik Programlama ile Türkiye Buğday Verim Tahmini, 2022 - 2023
3. Korkmaz Y., Kemalbay G., TUBITAK Project, Solar Power Plant Production Prediction with Metaheuristic Optimization Technique, 2022 - 2023
4. Yeter F., Durdu U., Kemalbay G., TUBITAK Project, Classification of Online Complaints of an Airline Business with Text Mining, 2022 - 2023
5. Ulusoy B., Durdu U., Kemalbay G., TUBITAK Project, Turkish Sentiment Analysis for Product Reviews on an E-Commerce Site with Machine Learning, 2022 - 2023
6. Kemalbay G., Rendeci Z., Project Supported by Higher Education Institutions, Propensity to Buy Prediction for an E-Commerce Company with Unbalanced Data Set, 2022 - 2023
7. Ölmez S., Kirman O., Kemalbay G., TUBITAK Project, Optimal Strategy Selection for Stock Investor Based on Company Performance Ranking, 2021 - 2022
8. Ulusoy B., Aykurt İ., Kemalbay G., TUBITAK Project, Borsa İstanbul Stock Index Return Direction Prediction with Economic News Using Text Mining, 2021 - 2022
9. Korkmaz Y., Aykurt İ., Kemalbay G., TUBITAK Project, Group Constrained Portfolio Model According to Market Trend and Its Heuristic Solution, 2021 - 2022
10. Erözel S., Yıgman M., Kemalbay G., TUBITAK Project, Portfolio Optimization Based on Stock Price Prediction with Long-Short-Term Memory Approach, 2021 - 2022
11. KEMALBAY G., Durdu U., Project Supported by Higher Education Institutions, Öneri Sistemlerinde Otokodlayıcı Tabanlı Derin Öğrenme Yaklaşımı, 2021 - 2022

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

1. On distribution of upper marginal records in bivariate random sequences

KEMALBAY G., Bayramođlu I.

Turkish Journal of Mathematics, vol.43, no.3, pp.1474-1491, 2019 (SCI-Expanded)

2. **Joint distribution of new sample rank of bivariate order statistics**

KEMALBAY G., Bayramoglu (Bairamov) I.

JOURNAL OF APPLIED STATISTICS, vol.42, no.10, pp.2280-2289, 2015 (SCI-Expanded)

3. **Some novel discrete distributions under fourfold sampling schemes and conditional bivariate order statistics**

Bayramoglu (Bairamov) I., Kemalbay G.

JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, vol.248, pp.1-14, 2013 (SCI-Expanded)

## Articles Published in Other Journals

1. **Prediction of stock index movement direction with multiple logistic regression and k-nearest neighbors algorithm**

Kemalbay G., Alkış B. N.

Pamukkale Üniversitesi Mühendislik Bilimleri Dergisi, vol.4, no.27, pp.556-559, 2021 (Peer-Reviewed Journal)

2. **Sarima-arch versus genetic programming in stock price prediction**

Kemalbay G., Berak Korkmazođlu Ö.

SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.39, no.2, pp.110-122, 2021 (Scopus)

3. **Categorical Principal Component Logistic Regression A Case Study for Housing Loan Approval**

Kemalbay G., Berak Korkmazođlu Ö.

Procedia - Social and Behavioral Sciences, vol.109, pp.730-736, 2014 (Conference Book)

4. **Effects of multicollinearity on electricity consumption forecasting using partial least squares regression**

Kemalbay G., Berak Korkmazođlu Ö.

Procedia - Social and Behavioral Sciences, vol.62, pp.1150-1154, 2012 (Conference Book)

5. **Econometrics Application of Partial Least Squares Regression An Endogeneous Growth Model for Turkey**

Berak Korkmazođlu Ö., Kemalbay G.

Procedia - Social and Behavioral Sciences, vol.62, pp.906-910, 2012 (Conference Book)

6. **Portfolio Selection with Higher Moments A Polynomial Goal Programming Approach to ISE 30 Index**

Kemalbay G., Özkut C. M., Franko C.

Ekoist journal of econometrics and statistics (Online), no.13, pp.41-61, 2011 (Peer-Reviewed Journal)

7. **Lineer Olmayan Ayırma Teoremi ve Asıl Minimal Noktaların Karakterizasyonu**

AZİMLİ A., KEMALBAY G.

İstatistikçiler Dergisi, vol.1, pp.88-94, 2008 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

1. **Hisse Yatırımcısı için Şirket Performans Sıralamasına Dayalı Optimal Strateji Seçimi**

Ölmez S., Kemalbay G.

8. Uluslararası Marmara Fen Bilimleri Kongresi, Kocaeli, Turkey, 13 - 14 May 2022, pp.23

2. **Pazar Eğilimine Göre Grup Kısıtlı Portföy Modeli ve Sezgisel Çözümü**

Korkmaz Y., Kemalbay G.

8. Uluslararası Marmara Fen Bilimleri Kongresi, Kocaeli, Turkey, 13 - 14 May 2022, pp.24

3. **Borsa İstanbul Stock Index Return Direction Prediction with Economic News Using Text Mining**

Ulusoy B., Kemalbay G.

7. Uluslararası Mühendislik Ve Teknoloji Yönetimi Kongresi, İstanbul, Turkey, 16 - 18 April 2022, pp.830

4. **Portfolio Optimization Based on Stock Price Prediction with Long-Short-Term Memory Approach**  
Erözel S., Yiğman M., Kemalbay G.  
7. Uluslararası Mühendislik Ve Teknoloji Yönetimi Kongresi, İstanbul, Turkey, 16 - 18 April 2022, pp.911
5. **Developing a Personalized Recommender System in an E-Commerce Firm**  
Levent A., Kemalbay G.  
7. Uluslararası Mühendislik Ve Teknoloji Yönetimi Kongresi, İstanbul, Turkey, 16 - 18 April 2022, pp.823
6. **Propensity to Buy Prediction for an E-Commerce Company with Unbalanced Data Set**  
Rendeci Z., Kemalbay G.  
7. Uluslararası Mühendislik Ve Teknoloji Yönetimi Kongresi, İstanbul, Turkey, 16 - 18 April 2022, pp.931
7. **Autoencoder Based Deep Learning Approach in Recommender Systems**  
Durdu U., Kemalbay G.  
5.Uluslararası Mühendislik Ve Teknoloji Yönetimi Kongresi, İstanbul, Turkey, 24 - 25 April 2021, pp.669
8. **Genetic Programming in Financial Time Series Prediction**  
Kemalbay G.  
Virtual International Conference on Soft Computing, Optimization Theory and Applications , Ranchi, India, 26 - 27 March 2021, pp.17
9. **Component-wise Records of Bivariate Random Sequences**  
Kemalbay G.  
Recent Advances in Probability & Statistics: An International Conference in Honor of Ismihan Bayramoglu (Bairamov) for His 60th Birthday, İstanbul, Turkey, 24 - 25 June 2019, pp.16
10. **Sezgisel Algoritmalar ile Portföy Optimizasyonu: BIST 30 Uygulaması**  
Kurtulmuş C., Kemalbay G.  
Uluslararası Marmara Fen ve Sosyal Bilimler Kongresi, Kocaeli, Turkey, 26 - 28 April 2019, pp.165
11. **Yapay Sinir Ağları İle Uzun Dönem Türkiye Elektrik Tüketim Tahmini**  
Turgut S., Kemalbay G.  
XI International Balkan and Near Eastern Social Sciences Congress Series, Tekirdağ, Turkey, 09 March 2019, pp.939
12. **The Joint Distribution of Marginal Records in Extended Bivariate Random Sequences**  
KEMALBAY G.  
4th International Conference on New Advances in Statistics, Saint Petersburg, Russia, 11 May 2018, pp.22
13. **A Hybrid Seasonal Autoregressive Integrated Moving Average for the Predicting of Tourism Demand**  
Kemalbay G., Berak Korkmazoğlu Ö.  
4th International Conference on New Advances in Statistics, Sankt-Peterburg, Russia, 11 - 13 May 2018, pp.23
14. **On Distribution of Bivariate Record Statistics**  
KEMALBAY G.  
3rd International Researchers, Statisticians and Young Statisticians Congress 3rDIRSYSC, 24 - 26 May 2017
15. **Distribution of the Second Upper Record Statistics from Bivariate Sample**  
KEMALBAY G.  
3rd International Conference on Advances in Statistics ICAS2017, 28 - 30 April 2017
16. **Prediction of the Stock Index Direction with Binary Classification Methods**  
Kemalbay G., Alkış B. N.  
3rd International Balkan and Near Eastern Social Sciences Congress Series III. IBANESS, Edirne, Turkey, 4 - 05 March 2017, pp.1779
17. **The Rank of Bivariate Extreme Order Statistics: An Application in Hydrology**  
KEMALBAY G.  
12th International Conference on Ordered Statistical Data OSD2016, 25 - 28 May 2016
18. **A Genetic Programming Based Stock Return Prediction**  
KEMALBAY G., BERAK KORKMAZOĞLU Ö.  
5th World Conference on Business, Economics and Management 5thWCBEM, 12 - 14 May 2016
19. **Classification of the Stock Index Direction with Logit Model**  
KEMALBAY G., ALKIŞ B. N.

- 2nd International Conference on Advances in Statistics ICAS2016, Zagreb, Croatia, 19 - 22 April 2016
20. **Forecasting Tourist Arrivals to Turkey with Genetic Programming**  
Berak Korkmazođlu Ö., Kemalbay G.  
2nd International Conference on Advances in Statistics ICAS2016, Zagreb, Croatia, 19 - 22 April 2016
21. **A Hydrological Application of the Rank of Bivariate Extreme Order Statistics**  
KEMALBAY G.  
2nd International Conference on Advances in Statistics ICAS2016, Zagreb, Croatia, 19 - 22 April 2016
22. **Estimating Covariance As a Measure of Portfolio Risk Between Highly Correlated Assets**  
Kemalbay G., Berak Korkmazođlu Ö.  
International Conference on Advances in Statistics ICAS2015, Dubai, United Arab Emirates, 24 - 28 March 2015, pp.103
23. **Conditional Bivariate Order Statistics Connected with The Modified Bivariate Binomial Distribution**  
KEMALBAY G., BAYRAMOđLU İ.  
7th International Workshop on Applied Probability (IWAP), Antalya, Turkey, 16 - 19 June 2014
24. **Distribution of the Rank of Order Statistics from Bivariate Sample**  
KEMALBAY G., BAYRAMOđLU İ.  
11th International Conference on Ordered Statistical Data, Bedlewo, Poland, 2 - 06 June 2014
25. **On a New Sample Rank of Bivariate Order Statistics**  
KEMALBAY G., BAYRAMOđLU İ.  
9th International Statistic Days Symposium, Antalya, Turkey, 10 - 14 May 2014
26. **On Marginal Distribution of Conditional Largest Order Statistics From Bivariate Sample**  
KEMALBAY G.  
8th International Statistics Congress, Antalya, Turkey, 27 - 30 October 2013
27. **Distribution of Conditional Order Statistics**  
KEMALBAY G., BAYRAMOđLU İ.  
8th International Symposium of Statistics, Antalya, Turkey, 11 - 13 October 2012
28. **Distribution of Bivariate Order Statistics When Some of Observations are Truncated**  
KEMALBAY G., BAYRAMOđLU İ.  
OSDA-2012 Tenth International Conference on Ordered Statistical Data and Their Applications, Murcia, Spain, 23 - 25 May 2012
29. **Conditional Bivariate Order Statistics**  
KEMALBAY G., BAYRAMOđLU İ.  
ICAPS-2011 International Conference on Advances in Probability and Statistics-Theory and Applications: A Celebration of N. Balakrishnan's 30 years of Contributions to Statistics, Hong Kong Sar, China, 28 - 31 December 2011
30. **Portfolio Selection with Higher Moments A Polynomial Goal Programming Approach to ISE 30 Index**  
KEMALBAY G., ÖZKUT C. M., FRANKO C.  
12th International Symposium on Econometrics, Operations Research and Statistics, Denizli, Turkey, 26 - 29 May 2011
31. **On The Lifetime Evaluation of n f k G Systems**  
KEMALBAY G.  
International Science and Technology Conference ISTEK, Cyprus (Kktc), 27 - 29 October 2010
32. **Türkiye de Bütçe Dengesi Yapısının VAR Tekniđi ile Analizi**  
KEMALBAY G.  
International Science and Technology Conference ISTEK, Cyprus (Kktc), 27 - 29 October 2010
33. **Dahi Matematikçi Andrey N Kolmogorov**  
AZİMLİ A., KEMALBAY G.  
IV. Ulusal Mantık, Matematik ve Felsefe Sempozyumu, İzmir, Turkey, 5 - 08 September 2006

## Academic and Administrative Experience

2019 - Continues	<b>Bölüm Staj Komisyonu Başkanı</b>	Yildiz Technical University, Faculty of Arts & Science, Department of Statistics
2015 - Continues	<b>Bölüm Erasmus Staj Komisyonu Üyesi</b>	Yildiz Technical University, Faculty of Arts & Science, Department of Statistics
2014 - 2019	<b>Bölüm Staj Komisyonu Üyesi</b>	Yildiz Technical University, Faculty of Arts & Science, Department of Statistics

## Courses

Optimizasyon, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019  
Statistics, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019  
İstatistikte Matematiksel Yöntemler, Postgraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018  
Olasılığa Giriş, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020  
Probability and Statistics, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018  
İstatistikte İleri Matematiksel Yöntemler, Doctorate, 2016 - 2017  
Probability Theory and Statistics, Undergraduate, 2016 - 2017  
Uygulamalı Optimizasyon, Undergraduate, 2016 - 2017  
İstatistikte Parametre Tahmini ve Hipotez Testi, Undergraduate, 2016 - 2017  
Computer Programming, Undergraduate, 2016 - 2017

## Advising Theses

Kemalbay G., Derin Yapay Sinir Ağları ile Zaman Serisi Öngörüsü, Doctorate, A.Tukur(Student), Continues  
Kemalbay G., Metin Madenciliği ve Bir Uygulama, Doctorate, U.Durdu(Student), Continues  
Kemalbay G., A Research on Classification Analysis with Genetic Algorithm, Doctorate, E.Kurtuluş(Student), Continues  
Kemalbay G., Derin Sinir Ağları ile Çok Değişkenli Hisse Fiyat Tahmini, Postgraduate, S.Serin(Student), 2024  
Kemalbay G., Propensity to Buy Prediction for an E-Commerce Company with Unbalanced Data Set, Postgraduate, Z.Rendeci(Student), 2023  
Kemalbay G., Developing a Personalized Recommender System in an E-commerce Firm, Postgraduate, A.Levent(Student), 2022  
Kemalbay G., Autoencoder Based Deep Learning Approach in Recommendation Systems, Postgraduate, U.Durdu(Student), 2022  
Kemalbay G., Cardinality Constrained Portfolio Optimization with Differential Evolution Algorithm, Postgraduate, C.Kurtulmuş(Student), 2020  
Kemalbay G., Turkey's long-term electricity demand forecasting with artificial neural networks, Postgraduate, S.Turgut(Student), 2019  
Kemalbay G., Prediction of the BIST 100 index direction with multiple logistic regression and k-nearest neighbors methods, Postgraduate, B.Nur(Student), 2018

## Scientific Refereeing

Sigma Journal of Engineering and Natural Sciences, Journal Indexed in ESCI, July 2020  
COMMUNICATIONS IN STATISTICS-THEORY AND METHODS, Journal Indexed in SCI-E, June 2020  
Journal of Engineering Technology and Applied Sciences, Other Indexed Journal, September 2019

JOURNAL OF APPLIED STATISTICS, SCI Journal, July 2019  
JOURNAL OF APPLIED STATISTICS, SCI Journal, November 2018  
JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, SCI Journal, October 2018  
Pakistan Journal of Statistics, Other Indexed Journal, September 2018  
JOURNAL OF APPLIED STATISTICS, SCI Journal, July 2018  
Journal of Engineering Technology and Applied Sciences, Other Indexed Journal, June 2018  
COMMUNICATIONS IN STATISTICS-SIMULATION AND COMPUTATION, SCI Journal, June 2018  
JOURNAL OF APPLIED STATISTICS, SCI Journal, April 2018  
JOURNAL OF APPLIED STATISTICS, SCI Journal, November 2017  
EUROPEAN JOURNAL OF OPERATIONAL RESEARCH, SCI Journal, June 2017  
EUROPEAN JOURNAL OF OPERATIONAL RESEARCH, SCI Journal, April 2017  
COMMUNICATIONS IN STATISTICS-THEORY AND METHODS, SCI Journal, September 2016  
JOURNAL OF APPLIED STATISTICS, SCI Journal, July 2016  
EUROPEAN JOURNAL OF OPERATIONAL RESEARCH, SCI Journal, April 2016  
İSTATİSTİK, Journal of the Turkish Statistical Association, Other Indexed Journal, August 2015

### Tasks In Event Organizations

Kemalbay G., Recent Advances in Probability & Statistics: An International Conference in Honor of Ismihan Bayramoglu (Bairamov) for His 60th Birthday , Scientific Congress, İstanbul, Turkey, Haziran 2019  
Kemalbay G., 5th International Conference on New Advances in Statistics, Scientific Congress, Athens, Greece, Nisan 2019  
Kemalbay G., 4th International Conference on New Advances in Statistics, Scientific Congress, Sankt-Peterburg, Russia, Mayıs 2018  
Kemalbay G., 3rd International Conference on Advances in Statistics, Scientific Congress, Helsinki, Finland, Nisan 2017  
Kemalbay G., 2nd International Conference on Advances in Statistics, Scientific Congress, Zagreb, Croatia, Nisan 2016  
Kemalbay G., 1st International Conference on Advances in Statistics, Scientific Congress, Dubai, United Arab Emirates, Mart 2015  
Kemalbay G., 11th International Statistics Student Colloquium, Scientific Congress, İstanbul, Turkey, Mayıs 2014

### Metrics

Publication: 46  
Citation (WoS): 34  
Citation (Scopus): 20  
H-Index (WoS): 4  
H-Index (Scopus): 2

### Invited Talks

Virtual International Conference on Soft Computing, Optimization Theory and Applications , Conference, Birla Institute of Technology, India, March 2021

### Research Areas

Statistics, Statistical Analysis and Applications, Natural Sciences