Engin YILDIZTEPE, Ph.D.

CONTACT INFORMATION	Department of Statistics, Dokuz Eylul University Buca, Izmir, Türkiye +90 232 301 86 04 engin.yildiztepe at deu_dot_edu_dot_tr
RESEARCH INTERESTS	Data science, Statistical data analysis, Anomaly detection, Statistical programming, Exploratory data analysis, Data visualization, Resampling methods, Dynamic and reproducible reporting, Machine learning

EDUCATION

Dokuz Eylul University, Izmir, Türkiye

Ph.D., Statistics, 2009

Mugla University, Mugla, Türkiye

M.Sc., Statistics and Computer Science, 2003

B.Sc., Statistics and Computer Science, 2000

EXPERIENCE

Associate Professor　　　　　　　　　　　　02/2023 - current
Department of Statistics,
Dokuz Eylul University

Assistant Professor　　　　　　　　　　　　2013-2023
Department of Statistics,
Dokuz Eylul University

Lecturer, Ph.D.　　　　　　　　　　　　2011-2013
Department of Statistics,
Dokuz Eylul University

Lecturer, Ph.D.　　　　　　　　　　　　2009-2011
Department of Computer Science,
Dokuz Eylul University

Lecturer　　　　　　　　　　　　2004-2009
Department of Statistics,
Dokuz Eylul University

Lecturer, Software Developer　　　　　　　　　　　　2000-2004
Department of Informatics
Mugla University

TEACHING EXPERIENCE

Undergraduate level　　　　　　　　　　　　2004-current
R Statistical Programming Language
Non-parametric Statistical Methods
Computational Tools for Statistics
Data Management in Statistics with Excel
Data Analysis and Graphics Using R

Data Mining
Computer Programming
Statistics

Graduate level   2013-current
    Computational Statistics
    Exploratory Data Analysis
    Resampling Methods
    Applied Statistical Analysis
    R for Statistical Computing and Programming
    Exploratory Data Analysis and Data Visualization

REFEREED JOURNAL PUBLICATIONS

1. Ozdemir, A.F., **Yildiztepe, E.**, Paksoy, T., Navruz G., "Searching the differences through the tails of distributions using an approach based on Mahalanobis distance and percentile bootstrap", *Communications in Statistics-Simulation and Computation*, 2024. Doi:10.1080/03610918.2024.2333347.

2. Binzat, U., **Yildiztepe, E.**, "The Adjusted Histogram Based Outlier Score - AHBOS", *Mugla Journal of Science and Technology*, 2023. Doi:10.22531/muglajsci.1252876.

3. Yilmaz, F.M., **Yildiztepe, E.**, "Statistical Evaluation of Deep Learning Models for Forecasting Stock Price", *Computational Economics*, 2022. Doi:10.1007/s10614-022-10338-3

4. As, H., Balci, A.G., **Yildiztepe, E.**, Ozkaya, O., "Respiratory threshold as a new threshold determination method based on respiratory responses and it's success to indicate critical power", *Hacettepe Journal of Sport Sciences*, 2022. Doi:10.17644/sbd.1107799. (in Turkish)

5. Ozdemir, A.F., **Yildiztepe, E.**, Wilcox, R., "A new test for comparing J independent groups by using one-step M-estimator and bootstrap-t", *Communications in Statistics-Simulation and Computation*, 2022. Doi:10.1080/03610918.2022.2100419.

6. Ozkaya, O., Balci, A.G., As, H., **Yildiztepe, E.**, "A new technique to analyse threshold-intensities based on time dependent change-points in the ratio of minute ventilation and end-tidal partial pressure of carbon-dioxide production", *Respiratory Physiology & Neurobiology*, 294, 2021.

7. Sahin, O., Gokalp, G., Hocaoglu, N., **Yildiztepe, E.**, Kalkan, S., "Evaluation of Cardiovascular Drug Poisonings Reported to the Dokuz Eylul University Drug and Poison Information Center Between 2014 and 2017", *The Journal of Basic and Clinical Health Sciences*, 5/2/156-161, 2021.

8. **Yildiztepe, E.**, "Comparison of Conventional, Balanced and Sufficient Bootstrapping Approaches via Confidence Intervals and Efficiency", *Mugla Journal of Science*, 6/2/111-120, 2020.

9. Guven, H., Kalkan, S., Hocaoglu, N., **Yildiztepe, E.**, Gokalp, G., "Evaluation of the knowledge level and usage attitudes of the medical students on the medicinal herbs and herbal products: a project of

special study module in the first three years of the school of medicin", *International Journal of Basic and Clinical Pharmacology*, 8/3/394-401, 2019.

10. Baysal, S., **Yildiztepe, E.**, "Prediction of Season-End Point for Football using Pythagorean Expectation", *Journal of New Theory*, 27/63-73, 2019.

11. **Yildiztepe, E.**, Kocatas, A., "Analysis of Turkey Labour Force Data by Decision Tree Methods", *Cankiri Karatekin University Journal of the Faculty of Economics and Administrative Sciences*, 8/2/91-114, 2018. (in Turkish)

12. **Yildiztepe, E.**, Uzun, V., "Determination of the Semantic Similarity of Turkish Texts Using Probabilistic Methods", *Sinop University Journal of Natural Sciences*, 3/2/66-78, 2018. (in Turkish)

13. **Yildiztepe, E.**, "Determination of Qualifications Required For Employment of Statistics Graduates", *The Journal of Social Science Institute of Mersin University*, 1/2/49-60, 2018. (in Turkish)

14. Ozdemir, A.F., Wilcox, R., **Yildiztepe, E.**, "Comparing J Independent Groups with a Method Based on Trimmed Means", *Communications in Statistics-Simulation and Computation*, 47/3/852-863, 2018. Doi:10.1080/03610918.2017.1295152.

15. Aydin, B., Yurtman, M.N., Kurtoglu, A.P., **Yildiztepe, E.**, Hocaoglu,N., Tuncok, Y., Kalkan, S., "Evaluation of Restricted Service Capacity of a Regional Drug and Poison Information Center: Analysis of Data in 2014", *The Journal of Basic and Clinical Health Sciences*, 1/3/66-70, 2017.

16. Hocaoglu, N., **Yildiztepe, E.**, Bayram, B., Aydin, B., Tuncok, Y., Kalkan, S., "Demographic and clinical characteristics of theophylline exposures between 1993 and 2011", *Balkan Medical Journal*, 31/322-327/2014.

17. Ozdemir, A.F., **Yildiztepe, E.**, "A Test for Comparing k Independent Groups with a Measure of Location", *Anadolu University Journal of Science and Technology A - Applied Science and Engineering*, 14/3/241-249, 2013. (in Turkish)

18. **Yildiztepe, E.**, Ozdemir, A.F., "A Simulation Study of Bootstrap Confidence Intervals for the Location of Asymmetric and Heavy Tailed Distributions", *Anadolu University Journal of Science and Technology A - Applied Science and Engineering*, 14/3/213-229, 2013. (in Turkish)

19. Ozdemir, A.F., Wilcox, R., **Yildiztepe, E.**, "Comparing Measures of Location: Some Small-Sample Results When Distributions Differ in Skewness and Kurtosis Under Heterogeneity of Variances", *Communications in Statistics-Simulation and Computation*, 42/2/407-424, 2013.

20. Ozkaya, O., Colakoglu, M., Kuzucu, E.O., **Yildiztepe, E.**, "Mechanically Braked Elliptical Wingate Test: Modification Considerations, Load Optimization and Reliability", *Journal of Strength and Conditioning Research*, 26/5/1313-1323/2012, 2012.

21. **Yildiztepe, E.**, Hocaoglu, N., Demir, O., Arıcı, A., Oransay, K., Evcim, S., Kalkan, S., Tuncok, Y., "Analysis of 2007 data from Dokuz Eylul University Drug And Poison Information Center, Turkey", *Turkiye Klinikleri Journal of Medical Science*, 30/5/1622-1630, 2010.

22. Ozdemir, A.F., **Yildiztepe, E.**, "Cluster Analysis with Modified One-Step M-Estimator", *Journal of Statistical Research*, 07/01/41-54, 2010. (in Turkish)

23. **Yildiztepe, E.**, Ozdemir, A.F., "An Alternative Test for One Way ANOVA and Special Software", *Journal of Statisticians*, 1/3/175-182, 2008. (in Turkish)

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SELECTED
CONFERENCE
PUBLICATIONS

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1. Ozturk, F.E., Demirel, N., **Yildiztepe, E.**, "Determining the Optimal Number Of Clusters: Adjusted Silhouette Coefficient", 10th International Conference on Advances in Statistics, Budapest, Hungary, 2024.

2. Erbayat, B., **Yildiztepe, E.**, " An Approach to Identify Credit Card Fraud with Anomaly Detection Methods", 2nd DEU International Symposium in Graduate Researches on Data Science & Technology, Izmir, Türkiye, 2023.

3. As, H., Balci, G.A., **Yildiztepe, E.**, Ozkaya, O., "Reliability and Validity of The Respiratory Threshold Method", 21st International Sport Sciences Congress, Antalya, Türkiye, 2023.

4. Demirer, H., **Yildiztepe, E.**, Kalem, R. N., Kesayak, B., Aycı, D., Celtikci, E. N., "A clustering and benchmarking based monthly electricity consumption analysis for creating energy efficiency insights for the utility end-users", 4th SEERC Conference, Istanbul, Türkiye, 2023.

5. Ozkaya, O., Balci, A.G., As, H., **Yildiztepe, E.**, "A New Technique (i.e, Respiratory Threshold) As an Alternative to Traditional Gas Exchange Threshold and Respiratory Compensation Point", 20th International Sport Sciences Congress, Antalya, Türkiye, 2022.

6. **Yildiztepe, E.**, Ozdemir, A.F., Paksoy, T., "The Performances of Four Quantile Estimators When Comparing Dependent Groups with a Percentile Bootstrap Method", 12.International Statistics Days Conference (ISDC XII 2022), Izmir, Türkiye, 2022.

7. **Yildiztepe, E.**, Ozdemir, A.F., Paksoy, T., "An Alternative Quantile Plot for the Normal Distribution", Why R? Türkiye, 2022.

8. **Yildiztepe, E.**, Akilli, N., "A Study on Anomaly Detection with Boosting in Imbalanced Datasets", 4th International Conference on Data Science and Applications (ICONDATA'21), Türkiye, 2021.

9. İzmirli, S., **Yildiztepe, E.**, " AIS Data Visualization for Marine Traffic Analysis", International Symposium of Scientific Research and Innovative Studies, Türkiye, 2021.

10. Yilmaz, F. M., **Yildiztepe, E.**, " Assessment of The Prediction Performance of Deep Learning Models: The Case of Bist-100 Index", International Symposium of Scientific Research and Innovative Studies, Türkiye, 2021.

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11. Binzat, U., **Yildiztepe, E.**, " Evaluating the Effects of Outliers in Bootstrap", 6th International Conference on Advances in Statistics, Türkiye, 2020.

12. Sahin, O., Gokalp, G., Hocaoglu, N., **Yildiztepe, E.**, Kalkan S, "Evaluation of Cardiovascular Drug Poisonings Reported to the Dokuz Eylul University Drug and Poison Information Center Between 2014 and 2017", 3nd Regional TIAFT Meeting in Türkiye, Cappadocia, Türkiye, 2018.

13. Kizilkaya, B., **Yildiztepe, E.**, "Anomaly Detection in Multivariate Data Using Histogram Based Outlier Score", 11th International Statistics Days Conference, Bodrum, Mugla, Türkiye, 2018.

14. Binzat, U., **Yildiztepe, E.**, " A Study on the Robust Bootstrap Procedure by Hampel Weighting Function", 11th International Statistics Days Conference, Bodrum, Mugla, Türkiye, 2018.

15. Kizilkaya, B., **Yildiztepe, E.**, "Evaluation of Performances of Unsupervised Anomaly Detection Algorithms", 4th International Researchers, Statisticians and Young Statisticians Congress, Cesme, Izmir, Türkiye, 2018.

16. Binzat, U., **Yildiztepe, E.**, "A Simulation Study on the Performance of Weighted Bootstrap in the Presence of Outliers",4th International Researchers, Statisticians and Young Statisticians Congress, Cesme, Izmir, Türkiye, 2018.

17. Ataman, A.K., Bayram, B., Hocaoglu, N., **Yildiztepe, E.**, Kalkan, S., "Evaluation of Potential Drug-Drug Interactions in critical care area of the emergency department", 9th Asian Conference on Emergency Medicine & 13th Turkish Emergency Medicine Congress, Antalya, Türkiye, 2017.

18. Aydin B, Yurtman MN, Kurtoglu AP, **Yildiztepe, E.**, Hocaoglu N, Tuncok Y, Kalkan S, "Evaluation of restricted service capacity of a Regional Drug and Poison Information Center with the analysis of data in 2014 year", 2nd Regional TIAFT Meeting in Türkiye, Antalya, Türkiye, 2016.

19. Binzat, U., **Yildiztepe, E.**, "A Simulation Study on Resampling Based Methods for Comparing k Independent Groups",International Conference on Robust Statistics 2016, Geneva, Switzerland, 2016.

20. Binzat, U., **Yildiztepe, E.**, "A Comparison of Resampling Based Hypothesis Testing For Two Independent Samples", International 9th Statistics Congress, Antalya, Türkiye, 2015.

21. **Yildiztepe, E.**, Onat, M.Y., "Comparison of the Anomaly Detection Methods for Temporal Data'", The 15th Annual Conference of European Network for Business and Industrial Statistics ENBIS-15, Prague, Czech Republic, 2015.

22. **Yildiztepe, E.**, Uzun, V., "Semantic Analysis of Turkish Texts Using Latent Dirichlet Allocation", 9th International Statistics Day Symposium, Antalya, Türkiye, 2014.

23. Hocaoglu, N., **Yildiztepe, E.**, Bayram, B., Aydın, B., Tuncok, Y., Kalkan, S., "Demographic and clinical characteristics of theophylline exposures between 1993 and 2011", 1st Regional TIAFT Meeting in Türkiye, Izmir, Türkiye, 2014.

24. Ozdemir, F., **Yildiztepe, E.**, "A Test for Comparing k Independent Groups with a Measure of Location", 8th International Symposium of Statistics, Eskisehir, Türkiye, 2012.

25. **Yildiztepe, E.**, Ozdemir, F. "A Simulation Study of Bootstrap Confidence Intervals for the Location of Asymmetric and Heavy Tailed Distributions", 8th International Symposium of Statistics, Eskisehir, Türkiye, 2012.

26. Ozdemir, F., **Yildiztepe, E.**, "Cluster Analysis with Modified One-Step M-Estimator", 6th International Symposium of Statistics, Samsun, Türkiye, 2009.

27. **Yildiztepe, E.**, Kurt, S., Tunçok, Y., "A Statistical Information System for Drug & Poison Control Centers", 6th International Symposium of Statistics, Samsun, Türkiye, 2009.

THESIS SUPERVISED

MSc. Theses

Continuing

- Ensarioglu, Y., "Assessing Enterprise Data Maturity using Machine Learning Approaches"
  Advisor: Yildiztepe, E. 2024-ongoing.
- Seker, O., "Design and Implementation of a Recommendation System for Undergraduate Programme Choice"
  Advisor: Yildiztepe, E. 2024-ongoing.
- Yaman, M., "Evaluation of Imbalanced Data Classification Methods"
  Advisor: Yildiztepe, E. 2023-ongoing.
- Kafadar, M., "Prediction of Maintenance and Infrastructure Investment Needs with Grid Power Outage Data"
  Advisor: Yildiztepe, E. 2023-ongoing
- Sur, Y., "Call Centre Load Prediction with Artificial Neural Networks"
  Advisor: Yildiztepe, E. 2022-ongoing.
- Altinoz, A., "Ensemble Learning Approaches for Forecasting Time Series"
  Advisor: Yildiztepe, E. 2022-ongoing.

Completed

- Erbayat, B., "Anomaly Detection Approaches to Identify Fraud"
  Advisor: Yildiztepe, E. 2022-2024.
- Akilli, N., "Anomaly Detection with Ensemble Learning Approach"
  Advisor: Yildiztepe, E. 2020-2023.
- Yilmaz, F. M., "Employing Deep Learning Approaches for Financial Time Series Analysis"
  Advisor: Yildiztepe, E. 2020-2023.
- Alkan, S., "Anomaly Detection Methods in Marine Traffic Analysis"
  Advisor: Yildiztepe, E. 2020-2023.
- Baysal, S., "Review of Sports Data Mining Techniques"
  Advisor: Yildiztepe, E. 2017-2019.

- Kizilkaya, B., "Unsupervised Anomaly Detection Algorithms"
  Advisor: Yildiztepe, E. 2017-2019.
- Binzat, U., "Resampling Methods in Hypothesis Testing"
  Advisor: Yildiztepe, E. 2014-2017.
- Onat, Y., "Anomaly Detection in Temporal Data Mining"
  Advisor: Yildiztepe, E. 2013-2015.
- Uzun, V., "Semantic Text Mining and An Application in Turkish Documents"
  Advisor: Yildiztepe, E. 2011-2014.

Ph.D Theses

Completed

- Binzat, U., "Robust Bootstrap Procedures in the Presence of Outliers"
  Advisor: Yildiztepe, E. 2017-2024.

Undergraduate Theses

Continuing

- Erdem, İ., Durur, U. G., Aras, B., İşçioğlu, M.M., "Determination of Exercise Threshold Intensities by Change Point Analysis"
  Advisor: Yildiztepe, E. 2024-ongoing.

Completed

- Ak, M., Çalı, A., Dursun, E. B., Peker, P., "Change Point Determination Methods and Applications"
  Advisor: Yildiztepe, E. 2023-2024.
- Pasahan, F., Ergunes, F., Kavas, M., Sevim, B., "Activity Recognition with Wearable Devices and Smartphone Data"
  Advisor: Yildiztepe, E. 2022-2023.
- Gorener, C., Engin, A., Sayar, A., "Using Machine Learning Approaches for Severity Classification of Carpal Tunnel Syndrome"
  Advisor: Yildiztepe, E. 2021-2022.
- Demirtas, G., Ozturk, M., Ozmen, C., Kurt., M., "Methods in Recommender Systems and An Application"
  Advisor: Yildiztepe, E. 2019-2020.
- Bisren, I., Alkan, S., "Unsupervised Anomaly Detection Methods and Applications"
  Advisor: Yildiztepe, E. 2018-2019.
- Kaya, M., Nayansak, M., Kuralay, T.M., Korkmaz, S., Yıldırım, S., "Developing R Package and Shiny Apps with Rstudio"
  Advisor: Yildiztepe, E. 2017-2018.
- Sekmen, C., Kandemir, F., Ugurlu, G., Koyuncuoglu, I., Saygın, I., Kuru, M., Sargın, S., "Researching The Qualifications and Career Opportunities in The Employment of Statistics Graduates"
  Advisor: Yildiztepe, E. 2016-2017.
- Colakoglu, G., Meral, M.E., Korkmaz, M., Kuzu, A.S., Coban, S., Kaya, I., "Analysis of Google Trends Data"
  Advisor: Yildiztepe, E. 2015-2016.
- Sahin, Y., Pasin, E., Boyat, N., Karayurt, A., Guzel, F., "Text Mining Applications with Social Media Data"
  Advisor: Yildiztepe, E. 2014-2015.

- Altun, A.R., Akil, N., Bitirgen, T., Ficicioglu, O., Tunc, A.T., "Randomness Tests"
  Advisor: Yildiztepe, E. 2013-2014.
- Koc, R., Sayilam, A.B., Satilmis, E., Sarikaya, B., Gelgecli, H., Keskin, E., "Clustering Methods in Data Mining"
  Advisor: Yildiztepe, E. 2012-2013.
- Kas, M., Ozdogan, A., Tur, C., Uyanik, E., Yilmaz, A., Yucel, S., "Comparison of Statistics Software in Terms of Random Data Generation"
  Advisor: Yildiztepe, E. 2011-2012.
- Dagligil, O., Dogan, A., Gokmenoglu, G., Kulak, H., Ozek, S., Serin, Z., "Investigation of Bootstrap Methods"
  Advisor: Yildiztepe, E. 2011-2012.
- Karatas, B., Cicek, H., Ozcan, M., Maden, O., Sezgin, S.S., "Developing R Packages for Resample Methods"
  Advisor: Yildiztepe, E. 2011-2012.

PROJECTS

1. **Yildiztepe, E.**(Reseacher), "A New Exercise Intensity in Sport Sciences: Maximal Carbon-dioxide Production Volume", 222S130, *Project-1001 Supported by TUBITAK*, 2022-ongoing.

2. **Yildiztepe, E.**(Reseacher), "Classification of Individual Physical Fitness Levels Using Breakpoints Obtained from The Respiration Threshold Method", 122S887, *Project-1002 Supported by TUBITAK*, 2022-2023.

3. **Yildiztepe, E.**(Advisor), "Big Data Analysis Based Mobile Application Project to Increase Energy Consumption Awareness and Demand Flexibility of Electricity Subscribers", *R-D Project Supported by EPDK*, 2022-2023.

4. Ozdemir, A.F.(Coordinator), **Yildiztepe, E.**(Researcher), Paksoy, T. "Development of New Robust Statistical Methods Based on Quantile Estimation", *Project Supported by Higher Education Institutions DEU*, 2021-2023.

5. **Yildiztepe, E.**(Coordinator), Ozdemir, A.F., "Comparison of Bootstrap Methods For Different Location Estimators And Distributions", *Project Supported by Higher Education Institutions DEU*, 2013-2014.

6. **Yildiztepe, E.**(Researcher, Software Developer), Kurt, S.(Coordinator), "A Statistical Information System for Poison Control Centers", *Project Supported by Higher Education Institutions DEU*, 2007-2010.

7. **Yildiztepe, E.**(Software Developer), "Digital University Project", *Mugla University Computer Center*, 2000-2004.

8. **Yildiztepe, E.**(Software Developer), "Document Management System", *Mugla University Computer Center*, 2000-2003.

REVIEWS

Computational Economics
Quality and Reliability Engineering International
Turkish Journal of Electrical Engineering & Computer Sciences
Human and Experimental Toxicology
Gazi University Journal of Science

Adnan Menderes University Journal of Social Sciences Institute
Pakistan Journal of Statistics and Operation Research
Sakarya University Journal of Science
Pamukkale University Journal of Engineering Sciences
Journal of ETA Maritime Science
International Journal of Informatics Technologies
Gumushane University Journal of Science and Technology Institute
Acta Infologica
Journal of Scientific Reports-A
Asian Journal of Statistical Sciences
Methodology

ORGANIZING COMMITTEE

4th International Researchers, Statisticians and Young Statisticians Congress, 2018.
DEU Department of Statistics Seminar Series, 2006-2013.

ADMINISTRATIVE ASSIGNMENTS

DEU Department of Statistics , Vice Chair of Department, July 2019-May 2020
DEU Statistics, Risk and Actuarial Research Center, Vice Director, 2013-2016