

## Assoc. Prof. FULYA GÖKALP YAVUZ

### Personal Information

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### International Researcher IDs

ScholarID: Q9YLshUAAAAJ

ORCID: 0000-0002-7750-9767

Publons / Web Of Science ResearcherID: AAZ-5466-2020

ScopusID: 56964286200

Yoksis Researcher ID: 17851

### Education Information

Post Doctorate, Purdue University, College of Science, Statistics, United States Of America 2016 - 2017

Doctorate, Yıldız Technical University, Faculty Of Arts & Science, Department Of Statistics, Turkey 2011 - 2015

Postgraduate, Purdue University, College of Science, Statistics, United States Of America 2008 - 2010

Undergraduate, Hacettepe University, Fen Bilimleri Enstitüsü, İstatistik A.B.D., Turkey 2001 - 2006

### Dissertations

Doctorate, Parameter estimations in linear mixed models with heavy tailed distributions, Yıldız Teknik Üniversitesi, 2015

Postgraduate, Analyses of two different regression models by bootstrapping, Purdue University, 2010

### Research Areas

Database and Data Structures, Statistics, Natural Sciences

### Academic Titles / Tasks

Associate Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Statistics, 2023 - Continues

Assistant Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Statistics, 2019 - Continues

Research Assistant PhD, Yıldız Technical University, Faculty Of Arts & Science, Department Of Statistics, 2015 - 2019

Researcher, Purdue University, College of Science, Statistics, 2016 - 2017

Research Assistant, Yıldız Technical University, Faculty Of Arts & Science, Department Of Statistics, 2010 - 2015

### Academic and Administrative Experience

University Strategic Plan Committee Member, Middle East Technical University, Faculty of Arts and Sciences, Department

of Statistics, 2021 - Continues

Member of the Personal Data Protection Commission, Middle East Technical University, Faculty of Arts and Sciences, Department of Statistics, 2020 - Continues

Bölüm Akademik Teşvik Değerlendirme Komisyonu Üyesi, Middle East Technical University, Faculty of Arts and Sciences, Department of Statistics, 2019 - Continues

Deputy Head of Department, Middle East Technical University, Faculty of Arts and Sciences, Department of Statistics, 2019 - Continues

Coordinator of The Rectorate, Middle East Technical University, Presidency Office, Presidency Office, 2020 - 2023

Fakülte Kurulu Üyesi, Middle East Technical University, Faculty of Arts and Sciences, 2019 - 2022

Assistant Coordinator of The Rectorate, Middle East Technical University, Presidency Office, Presidency Office, 2019 - 2020

## Courses

Statistical Computing I, Undergraduate, 2022 - 2023, 2021 - 2022, 2019 - 2020

Statistical Computing 2, Undergraduate, 2021 - 2022, 2019 - 2020, 2018 - 2019

SAMPLING AND SURVEY TECHNIQUES, Undergraduate, 2022 - 2023, 2019 - 2020

Advanced Statistical Data Analysis, Postgraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020

New Horizons in Statistics, Undergraduate, 2021 - 2022, 2020 - 2021

Undergraduate Research, Undergraduate, 2020 - 2021, 2019 - 2020

## Advising Theses

Gökalp Yavuz F., Parameter estimations in linear mixed models with heavy-tailed and skew distributions, Doctorate, T.KAPUCU(Student), 2023

Gökalp Yavuz F., MINORITY CLASS AUGMENTATION IN TABULAR DATA USING GENERATIVE ADVERSARIAL NETWORK MODELS, Postgraduate, E.POLAT(Student), 2023

Gökalp Yavuz F., FORECASTING FOREIGN EXCHANGE RATE WITH MACHINE LEARNING TECHNIQUES, Postgraduate, R.KÜÇÜK(Student), 2023

Gökalp Yavuz F., PARALLEL COMPUTING IN STATISTICAL METHODS, Postgraduate, O.OLTULU(Student), 2022

Gökalp Yavuz F., Longitudinal data analysis with statistical and machine learning methods in neuroscience, Postgraduate, S.ÇAKAR(Student), 2022

Gökalp Yavuz F., Adapting a Robust Model into Hybrid Implementations of Machine Learning Algorithms and Statistical Methods for Longitudinal Data, Postgraduate, İ.HAKKI(Student), 2021

Gökalp Yavuz F., Implementation Of Different Algorithms In Linear Mixed Models: Case Studies With TIMSS, Postgraduate, B.KOCA(Student), 2021

## Taught Courses And Trainings

Gökalp Yavuz F., Data Science with R, 2017 - 2018

Gökalp Yavuz F., Daniel Ward M., Introduction to Big Data Analysis , 2018 - 2018

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

### I. Examining parallelization in kernel regression

Oltulu O., GÖKALP YAVUZ F.

SOFT COMPUTING, no.1, pp.205-215, 2024 (SCI-Expanded)

### II. Nested and robust modeling techniques for fNIRS data with demographics and experiment related

#### **factors in n-back task**

Çakar S., Gökalp Yavuz F.

NEUROSCIENCE RESEARCH, vol.186, pp.59-72, 2023 (SCI-Expanded)

- III. **Hybrid statistical and machine learning modeling of cognitive neuroscience data**  
Çakar S., Gökalp Yavuz F.  
Journal of Applied Statistics, 2023 (SCI-Expanded)
- IV. **Robust estimation in multivariate heteroscedastic regression models with autoregressive covariance structures using EM algorithm**  
GÜNEY Y., ARSLAN O., GÖKALP YAVUZ F.  
Journal of Multivariate Analysis, vol.191, 2022 (SCI-Expanded)
- V. **Is robot-assisted laparoscopic myomectomy superior to laparoscopic myomectomy?**  
Abike F., Gemici A., GÖKALP YAVUZ F., Sammour B., Tapisiz O. L., Dunder I.  
Clinical and Experimental Obstetrics and Gynecology, vol.49, no.5, 2022 (SCI-Expanded)
- VI. **Personalized reference intervals - statistical approaches and considerations**  
COSKUN A., Sandberg S., Unsal I., GÖKALP YAVUZ F., Cavusoglu C., SERTESER M., KILERCIK M., Aarsand A. K.  
CLINICAL CHEMISTRY AND LABORATORY MEDICINE, vol.60, no.4, pp.629-635, 2022 (SCI-Expanded)
- VII. **Parallel computing in linear mixed models**  
Yavuz F., Schloerke B.  
COMPUTATIONAL STATISTICS, vol.35, no.3, pp.1273-1289, 2020 (SCI-Expanded)
- VIII. **Variable selection in elliptical linear mixed model**  
Yavuz F. G., Arslan O.  
JOURNAL OF APPLIED STATISTICS, vol.47, no.11, pp.2025-2043, 2020 (SCI-Expanded)
- IX. **Fostering Undergraduate Data Science**  
GÖKALP YAVUZ F., Ward M. D.  
AMERICAN STATISTICIAN, vol.74, no.1, pp.8-16, 2020 (SCI-Expanded)
- X. **Detecting seasonal cycle shift on streamflow over Turkey by using multivariate statistical methods**  
YILDIZ D., Gunes M. S., GÖKALP YAVUZ F., Yildiz D.  
THEORETICAL AND APPLIED CLIMATOLOGY, vol.133, pp.1143-1161, 2018 (SCI-Expanded)
- XI. **Linear mixed model with Laplace distribution (LLMM)**  
Yavuz F., Arslan O.  
STATISTICAL PAPERS, vol.59, no.1, pp.271-289, 2018 (SCI-Expanded)
- XII. **Thalamic GABA levels and occupational manganese neurotoxicity: Association with exposure levels and brain MRI**  
Ma R. E., Ward E. J., Yeh C., Snyder S., Long Z., Yavuz F., Zauber S. E., Dydak U.  
NEUROTOXICOLOGY, vol.64, pp.30-42, 2018 (SCI-Expanded)
- XIII. **Effects of Dexterity Level and Hand Anthropometric Dimensions on Smartphone Users' Satisfaction**  
Ozkan N. F., Gokalp-Yavuz F.  
MOBILE INFORMATION SYSTEMS, 2015 (SCI-Expanded)

#### **Articles Published in Other Journals**

- I. **An analysis to identify the structural breaks of Covid-19 in Turkey**  
GÜNEY Y., TUAÇ Y., ÖZDEMİR Ş., GÖKALP YAVUZ F., ARSLAN O.  
JOURNAL OF STATISTICS & MANAGEMENT SYSTEMS, 2022 (ESCI)
- II. **The Clustering Structure of the COVID-19 Outbreak in Global Scale**  
GÖKALP YAVUZ F., GÜNEY Y., ÖZDEMİR Ş., TUAÇ Y., ARSLAN O.  
ADVANCES IN DATA SCIENCE AND ADAPTIVE ANALYSIS, vol.14, 2022 (ESCI)
- III. **USING FUZZY TOPSIS AND REGRESSION BASED WEIGHTS TO RANK E-COMMERCE WEBSITES**  
ÖZKAN N. F., GÖKALP YAVUZ F.  
Eskişehir Osmangazi Üniversitesi Mühendislik ve Mimarlık Fakültesi Dergisi, vol.2, pp.116-124, 2019 (Peer-

Reviewed Journal)

- IV. **The Network Analysis of the Domestic and International Air Transportation Structure of Turkey**  
KILIÇ DEPREN S., GÖKALP YAVUZ F.  
Mugla Journal of Science and Technology, vol.4, pp.148-155, 2018 (Peer-Reviewed Journal)
- V. **The Effects of Sales Promotion Activities on Consumers' Brand Preferences and an Application**  
Uçar B., Gökarp Yavuz F.  
İstanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi, vol.16, no.31, pp.543-568, 2017 (Peer-Reviewed Journal)
- VI. **Comparing the Predictive and Classification Performances of Logistic Regression and Neural Networks A Case Study on Timss 2011**  
AŞKIN Ö. E., GÖKALP F.  
Procedia - Social and Behavioral Sciences, vol.106, pp.667-676, 2013 (Peer-Reviewed Journal)
- VII. **The Usage of Two Level Random Intercept Model Specifications in the Analysis of Achievement in Mathematics**  
GÖKALP F., KILIÇ DEPREN S.  
Procedia - Social and Behavioral Sciences, vol.106, pp.3106-3115, 2013 (Peer-Reviewed Journal)
- VIII. **Urban Crime Investigation Association Rules in Istanbul Location of the Perception of the Problem**  
Bilen Ö., Ökten A., Gökarp F.  
Megaron, vol.7, pp.26-35, 2012 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Analyses Of Two Different Regression Models And Bootstrapping**  
GÖKALP F.  
in: Operations Research Proceedings, Diethard Klatte, Hans-Jakob Lüthi, Karl Schmedders, Editor, Springer Berlin Heidelberg, pp.237-242, 2011

## Refereed Congress / Symposium Publications in Proceedings

- I. **Variable selection in robust heteroscedastic models with autoregressive covariance structures using EM-type algorithm**  
Gökarp Yavuz F., Güney Y., Arslan O.  
15th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2022), London, England, 17 December 2022
- II. **Cross Country Analysis of the Mathematical Achievement Scores with TIMSS Data**  
KOCA B., GÖKALP YAVUZ F.  
5th International Conference on Data Science and Applications (ICONDATA'22), Fethiye, Turkey, 07 September 2022
- III. **Dependency Structure-Based Cognitive Data Analysis**  
ÇAKAR S., GÖKALP YAVUZ F.  
5th International Conference on Data Science and Applications (ICONDATA'22), Fethiye, Turkey, 07 September 2022
- IV. **Data Science Education for Developing Countries: the Process of Democratization**  
GÖKALP YAVUZ F.  
24th International Conference on Computational Statistics - CompStat 2022, Bologna, Italy, 23 August 2022
- V. **Denoising and Outlier Removal from Permanent Downhole Gauge Using Nonlinear Regression Methods**  
Özbayrak F., GÖKALP YAVUZ F.  
ADIMODTÜ Project Poster Presentation, Ankara, Turkey, 22 December 2021
- VI. **Synthetic CANBUS Data Generation for Driver Behavior Modeling**

Ucuzova E., Kurtulmaz E., GÖKALP YAVUZ F., KARACAN H., Şahin N. E.

IEEE 29th Signal Processing and Communications Applications Conference (SIU), Turkey, 9 - 11 June 2021

**VII. Algorithm Overview and Design for Mixed Effects Models**

Koca B., Gökulp Yavuz F.

4th International Conference on Data Science and Applications (ICONDATA) 2021, Ankara, Turkey, 04 June 2021

**VIII. Clustering Countries with COVID19 Dataset**

GÖKALP YAVUZ F., GÜNEY Y., ÖZDEMİR Ş., TUAÇ Y., ARSLAN O.

6th International Medicine Health Sciences Congress (IMedHSC) 2020, 27 - 29 December 2020

**IX. Logistic Growth Modeling Of The Turkish COVID-19 Data**

ÖZDEMİR Ş., ARSLAN O., GÜNEY Y., GÖKALP YAVUZ F., TUAÇ Y.

III. INTERNATIONAL CONFERENCE ON COVID-19 STUDIES, Ankara, Turkey, 25 - 27 December 2020

**X. Modeling Turkish COVID-19 Data Using ARIMA Model**

Dalkılıç H., Köprü A. A., GÜNEY Y., TUAÇ Y., ÖZDEMİR Ş., GÖKALP YAVUZ F., ARSLAN O.

III. INTERNATIONAL CONFERENCE ON COVID-19 STUDIES, Ankara, Turkey, 25 - 27 December 2020, vol.1

**XI. Linear and Nonlinear Regression with Autoregressive Errors: Application to Covid- 19 Contagion in Turkey**

GÜNEY Y., TUAÇ Y., ÖZDEMİR Ş., ARSLAN O., GÖKALP YAVUZ F.

6th International Medicine And Health Sciences Congress (IMedHSC) 2020, 27 - 29 December 2020

**XII. Joint modeling of mean and dispersion of the multivariate laplace distribution**

ARSLAN O., GÜNEY Y., GÖKALP YAVUZ F.

13th International Conference of the ERCIM WG on Computational and Methodological Statistics, United Kingdom, 19 - 21 December 2020, vol.1, pp.53

**XIII. Hands-on Introduction Course in R**

GÖKALP YAVUZ F.

ybis2019, Young Business and Industrial Statisticians, 25 - 28 November 2019

**XIV. Examining the Maps of Air Transport Network Characteristics**

KILIÇ DEPREN S., GÖKALP YAVUZ F.

1st International Conference on Data Science and Applications (ICONDATA 2018), Yalova, Turkey, 4 - 07 October 2018, pp.54-55

**XV. Lmmmpar: a package for parallel programming in linear mixed models**

GÖKALP YAVUZ F., Schloerke B.

10th International Statistics Congress (ISC2017), ANKARA, 6 - 08 December 2017

**XVI. Discussion on Big Data and One of Its Early Training Application**

GÖKALP YAVUZ F., Ward M. D.

19th International Conference on Statistics, 26 - 27 October 2017

**XVII. Linear Mixed Models and Data Science Investigations**

GÖKALP YAVUZ F., Ward M. D., ARSLAN O.

Purdue International Scholar Research Symposium, West Lafayette, United States Of America, 08 March 2017

**XVIII. Statistics Living Learning Community**

GÖKALP YAVUZ F.

LLC Seminars, Purdue University, West Lafayette, United States Of America, 07 March 2017

**XIX. Variable Selection with Shrinkage Methods in Elliptical Linear Mixed Models**

GÖKALP YAVUZ F.

Purdue University. Research Colloquium, West Lafayette, United States Of America, 27 January 2017

**XX. Adapting Robust Estimators to Iterative Parameter Estimation and Model Selection in Linear Mixed Models**

GÖKALP YAVUZ F., ARSLAN O.

International Conference on Robust Statistics, ICORS, Cenevre, Switzerland, 4 - 08 July 2016

**XXI. Model Selection in Robust Linear Mixed Models**

GÖKALP YAVUZ F., ARSLAN O.

International Conference on Information Complexity and Statistical Modeling in High Dimensions with Applications,

IC-SMHD, Nevşehir, Turkey, 18 - 21 May 2016

**XXII. Estimation In Lineer Mixed Models With Laplace Distributed Random Effects**

GÖKALP F., OLCAY A.

European Meeting of Statisticians, 6 - 10 June 2015

**XXIII. Robust Linear Mixed Models with Kotz type Distributions**

GÖKALP F., Arslan O.

9th International Statistics Day Symposium (İGS2014), 10 - 14 May 2014

**XXIV. How Did The Policy of Narrowing Price Steps Affect Stock Market Price Activities Association Rules Approach**

BİLEN Ö., GÖKALP F., BÜYÜKLÜ A. H.

8. World Congress in Probability and Statistics, 9 - 14 July 2012

**XXV. Analyses of Two Different Regression Models and Bootstrapping**

Gokalp F.

International Conference on Operations Research (OR), Zürich, Switzerland, 30 August - 02 September 2011, pp.237-242

**XXVI. Nba 2009 2010 Sezonu İçin Oyun Kurucu Pozisyonunda Oynayan Oyuncuların Performanslarının Karşılaştırılması**

KILIÇ DEPREN S., GÖKALP F., DEMİR İ.

12th International Symposium on Econometrics Operations Research and Statistics, 26 - 28 May 2011

**XXVII. Analyses of Determinants of Developing Countries Statistical Capacity**

GÖKALP F., BÜYÜKLÜ A. H.

12th International Symposium on Econometrics Operations Research and Statistics, 26 - 28 May 2011

## Supported Projects

GÖKALP YAVUZ F., ÇAKAR S., Project Supported by Higher Education Institutions, Makine Öğrenmesi ve İleri İstatistiksel Yöntemlerin Nörobilim Verilerinde Zihinsel İş Yükü Sınıflandırması İçin Uygulaması, 2023 - Continues

GÖKALP YAVUZ F., CEYLAN M. K., KOCA B., Project Supported by Higher Education Institutions, ODTÜ Veri Bilimi Ekosistemi / METU Data Science Ecosystem, 2019 - 2023

Arslan O., Gökarp Yavuz F., Güney Y., Tuaç Y., Project Supported by Other Official Institutions, Afetlerin Ekonomik Etkilerinin (Endeks Bazlı) Modellenmesi, 2020 - 2022

Gökarp Yavuz F., Arslan O., Güney Y., Özdemir Ş., TUBITAK Project, COVID-19 Verilerinin İstatistiksel Analizi, Modellenmesi ve Olası Risk İndeksinin Geliştirilmesi, 2020 - 2021

Gökarp Yavuz F., TUBITAK Project, Linear Mixed Models and Data Science Investigations, 2016 - 2017

Baykan A., TUBITAK Project, Mardin: A Transformed Cultural Heritage and Urban Regeneration in Urban Space, 2015 - 2016

Gökarp Yavuz F., Yıldız D., Project Supported by Higher Education Institutions, Social, Economic and Hydrological Impact Determination, Modelling and Forecasting of Basin Water Supply and Demand in Turkey, 2014 - 2016

## Metrics

Publication: 49

Citation (WoS): 48

Citation (Scopus): 51

H-Index (WoS): 3

H-Index (Scopus): 3