Prof. Selin SONER KARA

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: AAG-5646-2019

ScopusID: 34769098900

Yoksis Researcher ID: 174984

Education Information

Post Doctorate, Ecole Polytechnique Fédérale de Lausanne, EPFL (The Federal Institute of Technology, Lausanne), Laboratory for Production Management and Processes, Laboratory for Production Management and Processes, Switzerland 2010 - 2010

Doctorate, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Industry Engineering, Turkey 2004 - 2008

Postgraduate, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Industry Engineering, Turkey 2002 - 2004

Undergraduate, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Industry Engineering, Turkey 1998 - 2002

Research Areas

Industrial Engineering , Supply Chain and Logistics Management, Network Design, Engineering and Technology

Academic Titles / Tasks

Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Industry Engineering, 2019 - Continues

Associate Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Industry Engineering, 2014 - 2019

Assistant Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Industry Engineering, 2011 - 2014

Expert, Ecole Polytechnique Fédérale de Lausanne, EPFL (The Federal Institute of Technology, Lausanne), 2010 - 2010

Research Assistant, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Industry Engineering, 2003 - 2010

Academic and Administrative Experience

Deputy Head of Department, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Industry

Engineering, 2022 - 2024

Courses

Doctorate
Supply Chain Management, Doctorate, 2023 - 2024
Postgraduate
Data Analytics and Machine Learning, Postgraduate, 2023 - 2024
Fuzzy Sets and Decision Making, Postgraduate, 2013 - 2014
Undergraduate
Statistical Decision Making, Undergraduate, 2023 - 2024
Statistics, Undergraduate, 2023 - 2024
Kalite Yönetimi, Undergraduate, 2023 - 2024
Probability, Undergraduate, 2023 - 2024
Statistical Quality Control, Undergraduate, 2016 - 2017

Supervised Theses

Soner Kara S., Makine öğrenmesi yöntemleriyle demografik veriler üzerinden yabancı dil seviyesi tahmini, Postgraduate, G.GÜL(Student), 2024
Soner Kara S., Community-Based Learning vs. Credit Card Fraud Detection: A Comparative Analysis, Postgraduate, B.AKYÜZ(Student), 2022
Soner Kara S., Designing Just-in-Time Supply Chains Under Uncertainty with Stochastic and Robust Model Proposals, Postgraduate, B.GÜRSOY(Student), 2021
Soner Kara S., Modeling Network Design of a Third-Party Logistics Company Under Uncertainty: Application of Stochastic Modeling and Genetic Algorithm, Postgraduate, S.ÖZGE(Student), 2018
Soner Kara S., A Hybrid Heuristic Solution Proposal for Capacity-Constrained Facility Location and Vehicle Routing Problem under Demand Uncertainty, Doctorate, E.PEKEL(Student), 2018
Soner Kara S., Scheduling Simulation-Based Operations in the Istanbul Rapid Transit System, Postgraduate, E.Pekel(Student), 2016
Soner Kara S., Forecasting Demand with Artificial Neural Networks and its Application in the Food Sector, Postgraduate, M.Tuğba(Student), 2016
SONER KARA S., Reverse Logistic Network Design With Uncertainty, Postgraduate, M.F.(Student), 2016

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Towards sustainable logistics in Turkey: A bi-objective approach to green intermodal freight transportation enhanced by machine learning**
    Temizceri F. T., Soner Kara S.
    RESEARCH IN TRANSPORTATION BUSINESS AND MANAGEMENT, vol.55, pp.101-115, 2024 (SSCI)
II. **Identification of Perceived Challenges in the Green Energy Transition by Turkish Society through Sentiment Analysis**
    Soner Kara S., Bilgin U.
    SUSTAINABILITY, vol.16, no.8, pp.3367-3377, 2024 (SCI-Expanded)
III. **MODELLING SHIPS MAIN AND AUXILIARY ENGINE POWERS WITH REGRESSION-BASED MACHINE LEARNING ALGORITHMS**
    OKUMUŞ F., EKMEKÇİOĞLU A., Kara S.
    POLISH MARITIME RESEARCH, vol.28, no.1, pp.83-96, 2021 (SCI-Expanded)

IV. **Solving fuzzy capacitated location routing problem using hybrid variable neighborhood search and evolutionary local search**
Pekel E., Kara S.
APPLIED SOFT COMPUTING, vol.83, 2019 (SCI-Expanded)

V.   **Moisture content estimation during fixed bed drying process with design of experiment and ANFIS methods**
Akkoyunlu M. T., PEKEL E., AKKOYUNLU M. C., PUSAT Ş., ÖZKAN C., Kara S.
INTERNATIONAL JOURNAL OF OIL GAS AND COAL TECHNOLOGY, vol.22, no.3, pp.332-345, 2019 (SCI-Expanded)

VI. **Determination of Effective Parameters for Coal Moisture Content Determination Using a 'Design of Experiment' Method**
Akkoyunlu M. T., Pekel E., Akkoyunlu M. C., Pusat Ş., Özkan C., Kara S.
INTERNATIONAL JOURNAL OF COAL PREPARATION AND UTILIZATION, vol.38, pp.443-450, 2018 (SCI-Expanded)

VII. **Solving Capacitated Location Routing Problem by Variable Neighborhood Descent and GA – Artificial Neural Network Hybrid Method**
PEKEL E., SONER KARA S.
PROMET-TRAFFIC & TRANSPORTATION, vol.5, pp.1-10, 2018 (SCI-Expanded)

VIII. **Passenger Flow Prediction Based on Newly Adopted Algorithms**
Pekel E., Kara S.
APPLIED ARTIFICIAL INTELLIGENCE, vol.31, no.1, pp.64-79, 2017 (SCI-Expanded)

IX. **Estimation of coal moisture content in convective drying process using ANFIS**
Pusat Ş., Akkoyunlu M. T., Pekel E., Akkoyunlu M. C., Özkan C., Kara S.
FUEL PROCESSING TECHNOLOGY, vol.147, pp.12-17, 2016 (SCI-Expanded)

X.   **A multi criteria group decision making approach for collaborative software selection problem**
Kara S., Cheikhrouhou N.
JOURNAL OF INTELLIGENT & FUZZY SYSTEMS, vol.26, no.1, pp.37-47, 2014 (SCI-Expanded)

XI. **A distribution network optimization problem for third party logistics service providers**
Hüseyin B., SONER KARA S., ALCAN P., ÖZKAN B., Çağlar E. G.
Expert Systems With Applications, vol.38, pp.12730-12738, 2011 (SCI-Expanded)

XII. **Evaluation of Outsourcing Companies of Waste Electrical and Electronic Equipment (Weee) Recycling**
SONER KARA S.
International Journal of Environmental Science and Technology, vol.8, no.2, pp.291-304, 2011 (SCI-Expanded)

XIII. **Evaluation of outsourcing companies of waste electrical and electronic equipment recycling**
SONER KARA S.
International Journal of Environmental Science Technology, vol.8, pp.291-304, 2011 (SCI-Expanded)

XIV. **Supplier selection with an integrated methodology in unknown environment**
SONER KARA S.
Expert Systems with Applications, vol.38, no.3, pp.2133-2139, 2011 (SCI-Expanded)

XV. **A stochastic optimization approach for paper recycling reverse logistics network design under uncertainty**
Kara S., ÖNÜT S.
INTERNATIONAL JOURNAL OF ENVIRONMENTAL SCIENCE AND TECHNOLOGY, vol.7, no.4, pp.717-730, 2010 (SCI-Expanded)

XVI. **A two-stage stochastic and robust programming approach to strategic planning of a reverse supply network: The case of paper recycling**
Kara S., ÖNÜT S.
EXPERT SYSTEMS WITH APPLICATIONS, vol.37, no.9, pp.6129-6137, 2010 (SCI-Expanded)

XVII. **A combined fuzzy MCDM approach for selecting shopping center site: An example from Istanbul, Turkey**
Önüt S., Efendigil T., Kara S.
EXPERT SYSTEMS WITH APPLICATIONS, vol.37, pp.1973-1980, 2010 (SCI-Expanded)

XVIII. **Selecting the suitable material handling equipment in the presence of vagueness**
Önüt S., Kara S., Mert S.
INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, vol.44, pp.818-828, 2009 (SCI-Expanded)

XIX. **Long term supplier selection using a combined fuzzy MCDM approach: A case study for a telecommunication company**
Önüt S., Kara S., Isık E.
EXPERT SYSTEMS WITH APPLICATIONS, vol.36, pp.3887-3895, 2009 (SCI-Expanded)

XX. **A hybrid fuzzy MCDM approach to machine tool selection**
Önüt S., Kara S., Efendigil T.
JOURNAL OF INTELLIGENT MANUFACTURING, vol.19, pp.443-453, 2008 (SCI-Expanded)

XXI. **Transshipment site selection using the AHP and TOPSIS approaches under fuzzy environment**
Önüt S., Soner S.
WASTE MANAGEMENT, vol.28, pp.1552-1559, 2008 (SCI-Expanded)

XXII. **Analysis of energy use and efficiency in Turkish manufacturing sector SMEs**
Önüt S., Soner S.
ENERGY CONVERSION AND MANAGEMENT, vol.48, pp.384-394, 2007 (SCI-Expanded)

XXIII. **Energy efficiency assessment for the Antalya Region hotels in Turkey**
Önüt S., Soner S.
ENERGY AND BUILDINGS, vol.38, pp.964-971, 2006 (SCI-Expanded)

Articles Published in Other Journals

I. **LAST DECADE OF GREEN LOGISTICS WITH MULTIPLE MODES OF TRANSPORTATION: A LITERATURE REVIEW**
Temizceri T., Kara S.
Logforum, vol.19, no.4, pp.703-721, 2023 (ESCI)

II. **Determining the Happiness Class of Countries with Tree-Based Algorithms in Machine Learning**
Doğruel M., Soner Kara S.
Acta Infologica, pp.1-10, 2023 (Peer-Reviewed Journal)

III. **Raylı Sistem İstasyon Yeri Belirleme Problemi İçin Küme Kapsama ve Alternatif Servis Seviyeli P-Medyan Modelleriyle Çözüm Arayışı: Gebze-Darıca Metro Hattı Uygulaması**
Soner Kara S., Yurdakul G.
Dokuz Eylül Üniversitesi Mühendislik Fakültesi Fen ve Mühendislik Dergisi, vol.23, no.69, pp.845-856, 2021 (Peer-Reviewed Journal)

IV. **Modelling of just-in-time distrubution network under raw material quality and time constraints**
Gursoy B., SONER KARA S.
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.39, no.3, pp.313-321, 2021 (ESCI)

V. **TESİS YERİ SEÇİMİ PROBLEMİNDE MİNİMUM KARBON EMİSYONU YAKLAŞIMI: BİR ÜNİVERSİTENİN GERİ DÖNÜŞÜM YÖNETİMİ İÇİN UYGULAMA**
Sudabaş F. T., Soner Kara S.
Mühendislik ve Tasarım Bilimleri Dergisi, vol.9, no.2, pp.544-553, 2021 (Peer-Reviewed Journal)

VI. **Veri Analizi ve Optimizasyon Yöntemleri Kullanılarak Tam Zamanında Yaklaşımının Ağ Tasarım Modeline Uygulanması**
Gürsoy B., Soner Kara S.
Veri Bilimi, vol.4, no.2, pp.40-48, 2021 (Peer-Reviewed Journal)

VII. **Sağlık kurumlarının ve eczanelerin taleplerine yönelik ecza deposu yer seçimi problemi**
Yıldız A., Soner Kara S., Özkan C.
Gümüşhane Üniversitesi Sosyal Bilimler Enstitüsü Elektronik Dergisi, vol.11, no.2, pp.452-465, 2021 (Peer-

Reviewed Journal)

VIII. **A COMPREHENSIVE REVIEW FOR ARTIFICAL NEURAL NETWORK APPLICATION TO PUBLIC TRANSPORTATION**
Pekel E., SONER KARA S.
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.35, no.1, pp.157-179, 2017 (ESCI)

IX. **Simulation-based fleet scheduling in the Metrobus**
Pekel E., Kara S.
International Journal of Simulation and Process Modelling, vol.11, pp.326-333, 2016 (Scopus)

X. **A SIMULATION BASED SCHEDULING IN BUS RAPID TRANSIT SYSTEM**
Pekel E., Kara S.
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.33, no.1, pp.66-76, 2015 (ESCI)

XI. **An Extensive Group Decision Methodology for Alliance Partner Selection Problem in Collaborative Networked Organisations**
SONER KARA S.
International Journal of Applied Logistics (IJAL), vol.3, no.1, pp.1-19, 2012 (Peer-Reviewed Journal)

XII. **Çok Kriterli Tedarikçi Seçimi: Bir ELECTRE-AHP Uygulaması**
Soner Kara S., Önüt S.
Sigma-Mühendislik ve Fen Bilimleri Dergisi, vol.1, no.4, pp.110-120, 2006 (Peer-Reviewed Journal)

Books

I. **The Personified Model for Supply Chain Management**
Arslan E., Soner Kara S., Aydın N. S., Yıldırım O.
in: Multidimensional and Strategic Outlook in Digital Business Transformation, Pelin Vardarlier, Editor, Springer, London/Berlin , London, pp.191-204, 2023

II. **A REVIEW OF CHAOS THEORY PRACTICED IN NEURAL NETWORK**
PEKEL E., SONER KARA S.
in: Uncertainty Modelling in Knowledge Engineering and Decision Making, -, Editor, World Scientific Publishers, Inc., -, pp.1105-1110, 2016

III. **Application of Fuzzy Analitic Network Process and Fuzzy TOPSIS to the Undesirable Location Selection Problem**
ÖNÜT S., SONER KARA S., TEKİN D.
in: Web-based Green Products Life Cycle Management Systems: Reverse Supply Chain Utilization, H.-F. Wang, Editor, Igı Global, New York, pp.208-231, 2009

Papers Published in Refereed Scientific Meetings

I. **Estimation of Health Insurance Premium Fees Payable by Individuals: An Application of United States**
Geçici E., Soner Kara S.
41. Yöneylem Araştırması Endüstri Mühendisliği Kongresi, Denizli, Turkey, 26 - 28 October 2022, pp.56

II. **Topluluk Öğrenimi İle Kredi Kartı Dolandırıcılık Tespiti: Karşılaştırmalı Bir Analiz**
Soner Kara S., Akyüz B.
II.International Multidisciplinary Digital Life Congress, Ankara, Turkey, 20 May - 22 July 2022, pp.10-11

III. **Variable Neighborhood Search and Evolutionary Local Search forCapacitated Location Routing Problem**
PEKEL E., SONER KARA S.

3rd International Mediterranean Science and Engineering Congress (IMSEC 2018), Adana, Turkey, 24 - 26 October 2018, pp.65-69

IV. **LOGISTIC NETWORK DESIGN AND IMPLEMENTATION IN A 3PL**
SONER KARA S., ÖNDİN S. Ö.
9th International Symposiumon Image Processing,Wavelet and Applications, Kars, Turkey, 5 - 08 November 2017

V. **THE FUTURE CUSTOMER DEMAND IN LOCATION-ROUTINGPROBLEM**
PEKEL E., SONER KARA S.
14th International Symposium on Operational Research, Bled, Slovenia, 27 - 29 September 2017, pp.147-151

VI. **THE PREDICTION OF PASSENGER AT CARSAMBA AIRPORT**
PEKEL E., SONER KARA S.
INTERNATIONAL CONFERENCE ON ADVANCES IN SCIENCE ICAS 2016, İstanbul, Turkey, 31 August 2016, pp.6-9

VII. **A REVIEW OF CHAOS THEORY PRACTICED IN NEURAL NETWORK**
PEKEL E., SONER KARA S.
Uncertainty Modelling in Knowledge Engineering and Decision Making, İstanbul, Turkey, 23 August 2016, pp.1105-1110

VIII. **TOPSIS ve AHP yardımıyla Tedarikçi Seçimi Tekstil Sektöründe Bir Uygulama**
Soner S., Önüt S.
26. YA/EM Ulusal kongresi,2006, İzmir, Turkey, 5 - 07 February 2006, pp.1-10

IX. **Prediction of short term passenger in bus rapid transit**
PEKEL E., SONER KARA S.
4th International fuzzy systems symposium, 5 - 06 November 2015

X. **Prediction of Short-Term Passenger Flow in Bus Rapid Transit**
PEKEL E., SONER KARA S.
01 November 2015

XI. **A GROUP EVALUATION METHODOLOGY FOR PARTNER TRUST ASSESSMENT WITHIN COLLABORATIVE NETWORKS**
HALOUANI N., SONER KARA S., MASMOUDI F.
CIE44 & IMSS'14 Proceedings, 14-16 October 2014, Istanbul / Turkey, 01 November 2014

XII. **Warehouse Management with A Simulation Programme**
PEKEL E., SONER KARA S.
International Logistics and Supply Chain Congress 2013, Nevşehir, Turkey, 7 - 09 November 2013

XIII. **A Comparison of Tabu Search Algorithm and Mathematical Model in a Pipeline Network**
PEKEL E., SONER KARA S.
01 September 2014

XIV. **Warehouse Management With A Simulation Programme**
SONER KARA S., Pekel E.
, International Logistics and Supply Chain Congress 2013, 01 November 2013

XV. **Assignment Problem of Injection Machines in an Electronic Equipment Manufacturer**
SONER KARA S., Pekel E., Ercins Y., Çelik M. K.
26th European Conference on Operational Research, EURO 2013, Roma,Italya, 01 July 2013

XVI. **Bulanık Mantık Ve Veri Zarflama Analizi Yardımıyla GSM Operatörleri Etkinlik Ölçümü**
SONER KARA S.
Yöneylem Araştırması ve Endüstri Mühendisliği 32. Kongresi, 01 July 2012, vol.1, pp.10

XVII. **A stochastic programming approach for stochastic line balancing with line stoppages**
ALTEKİN F. T., NOYAN BÜLBÜL N., SONER KARA S.
24th European Conference on Operational Research 2010, Lizbon, Portugal, 11 - 14 July 2010

XVIII. **Reverse logistics network design with unknown parameters**
Soner Kara S., Önüt S.
23rd European Conference on Operational Research, Bonn, Germany, 5 - 08 July 2009, pp.1-5

XIX. **Reverse Logistics Network design with Two stage Stochastic Programming A recycling network case study**

Soner Kara S., Önüt S.

International Workshop on Operations Research, Madrid, Spain, 1 - 04 September 2008

XX. **Eczacılık sektöründe iade ürünlerin toplanmasına yönelik depo yeri seçimi Bir AHP ELECTRE uygulaması**

Soner S., Önüt S.

2.Sistem Mühendisliği Kongresi, 2008, İstanbul, Turkey, 10 - 12 February 2008

XXI. **Bulanık ortamda çok kriterli depo yeri seçimi Bir AHP Bulanık TOPSIS uygulaması**

Soner S., Önüt S.

2.Sistem Mühendisliği Kongresi, 2008, İstanbul, Turkey, 4 - 06 February 2008

XXII. **A Stochastic Programming Approach to a Case Study for Reverse Logistics Network Design**

Soner Kara S., Önüt S.

International Logistics and Supply Chain Congress 2007, İstanbul, Turkey, 4 - 08 November 2007

XXIII. **Reverse Supply Chain Network Design Problem under Uncertainty**

Soner S., Önüt S.

11th Int.Conf. on Stochastic Programming (SPXI), Vienna, Austria, 27 - 31 August 2007

XXIV. **Decision making for 3rd Party Logistics Provider selection and ranking in Reverse Logistics THE ELECTRE and AHP application**

Soner S., Önüt S.

4th International Logistics and SupplyChain Management Congress 2006, İzmir, Turkey, 15 - 17 November 2006

XXV. **A Descriptive Analysis on The Implementation of Balanced Scorecard in An Automobile Firm**

Soner S., Önüt S.

9th International Research/Expert Conference on "Trends in the developmentof Machinery and associated Technology, Antalya, Turkey, 26 - 30 September 2005

XXVI. **An integrated framework for transportation and warehousing functions of the supply chain using holonistic approach**

Tuzkaya U. R., Önüt S., Soner S.

35th International Conference on Computers and Industrial Engineering 2005, İstanbul, Turkey, 7 - 09 February 2005

XXVII. **A Literature Review of Forward And Reverse Supply Chain Network Design Problems Under Uncertainity**

Soner S., Önüt S.

Stochastic Programming Spring School- 2007, Bergamo, Italy, 6 - 08 February 2007

XXVIII. **Evaluation and Selection of R D Projects using an integrated Bsc Dea Methodology**

Soner S., Önüt S., Tuzkaya U. R.

35th International Conference on Computers and Industrial Engineering 2005, İstanbul, Turkey, 19 - 22 June 2005

XXIX. **A model design for selecting Advanced Manufacturing Technologies using Analytical Hierarchy Process**

Soner S., Önüt S.

3rd International Conference of Dies and Molds 2003, Bursa, Turkey, 17 - 19 June 2004

XXX. **Supplier selection and evaluation using Data Envelopment Analysis**

Soner S., Önüt S.

InternationalLogistics And Supply Chain Congress 2004, İzmir, Turkey, 8 - 11 November 2004

Supported Projects

Soner Kara S., TUBITAK Project, Price Prediction in the Automotive Sector through Data Analysis and Machine Learning Methods, 2023 - 2023

Soner Kara S., TUBITAK Project, Data Analysis and Machine Learning-Based Prediction and Clustering of Electricity, Water, and Natural Gas Consumption in Turkey, 2023 - 2023

SONER KARA S., ŞEN C., Turkcell Global Bilgi Performans Yönetim Sistemi Analizi, 2012 - 2013

Metrics

Publication: 76
Citation (WoS): 1195
Citation (Scopus): 1598
H-Index (WoS): 12
H-Index (Scopus): 13

Non Academic Experience

EPFL | École Polytechnique Fédérale de Lausanne, Post doktora