

DAY 1

August 22nd, 2023
Tuesday

INFUS
International Conference on
Intelligent and Fuzzy Systems

Istanbul Technical University



M
MIGROS

08.45 - 19.00 Registration
08.45 - 09.30 Opening Ceremony & Mini Concert

Keynote Speakers

ONSITE 09.30 - 10.15 Chair: Cengiz Kahraman Room: Buyukada **KEYNOTE** 1

Contextual bipolar database queries: A conjunctive and disjunctive perspective

Prof. Janusz Kacprzyk

ONSITE 10.15 - 11.00 Chair: Cengiz Kahraman Room: Buyukada **KEYNOTE** 2

Intuitionistic Fuzzy Modal Topological Structures Based on Two New Intuitionistic Fuzzy Modal Operators

Prof. Krassimir Atanassov

11.00 - 11.15 Coffee Break

ONSITE 11.15 - 12.00 Chair: Sezi Cevik Onar Room: Buyukada **KEYNOTE** 3

Multi-Scale Dimensionality Reduction with F-Transforms in Time Series Analysis

Prof. Irina Perfilieva

ONSITE 12.00 - 12.45 Chair: Sezi Cevik Onar Room: Buyukada **KEYNOTE** 4

The World of Generative AI: Challenges and Opportunities

Prof. Ajith Abraham

12.45 - 14.00 Lunch

SESSION 1

ONSITE 14.00 - 15.30 Chair: Cengiz Kahraman Room: Buyukada **SESSION** 1.1

Software Test Suite Minimization Using Hybrid Metaheuristics

Anu Bajaj, Ajith Abraham, Nitigya Sambyal

A Novel Bivariate Elliptic Fuzzy Membership Function: A Modeling and Decision-Making Tool for Bike Sharing

Alparslan Abdurrahman Başaran, Murat Alper Basaran, Mehmet Özer Demir
Investigation the activity of medical institutions for hospital care in Bulgaria with the InterCriteria Analysis Method

Boyko Mirazchiiski, Evdokia Sotirova, Veselina Bureva

Pathfinding with Dynamic Obstacles

Anshul Patil, Shreshtha Kamboj, Anu Bajaj, Ajith Abraham

A Novel Intuitionistic Fuzzy Grey Model for Forecasting Electricity Consumption

Bahadır Yörür, Nihal Erginel, Sevil Şentürk

ONSITE 14.00 - 15.30 Chair: Basar Oztaysi Room: Heybeliada **SESSION** 1.2

Requirement Prioritization by using Type-2 Fuzzy TOPSIS

Basar Oztaysi, Sezi Cevik Onar, Cengiz Kahraman

Aggregation Operators for Face Recognition

Nebojša Ralević, Andrija Blesić, Vladimir Ilić, Marija Paunović, Lidija Comić

Fuzzy Numbers and Analysis of Radiological Images

Irma Ibršimović, Bratislav Iričanin, Nataša Milosavljević, Ljubo Nedović, Nebojša Ralević

Unlocking Insights into Mental Health and Productivity in the Tech Industry through KDD and Data Visualization

Fariba Farid, Yaser Donyatalab

Overcoming the challenges of uncertainty in forecasting economic time series through convolutional neural networks and other intelligent approaches

Dmytro Kovalenko, Dusan Marcek

ONSITE 14.00 - 15.30 Chair: Sotir Sotirov Room: Kinaliada **SESSION** 1.3

InterCriteria Analysis as an Intelligent Tool for Intuitionistic Fuzzy Decision Making: Case Study of Statistics for Science, Technology and Information Society of Turkish Statistical Institute

Veselina Bureva, Sotir Sotirov

High-Tech Means and Implements of Crime: Challenging The Security of Sustainable Urban Development

Murad M. Madzhumayev

Application of a fuzzy based machine learning approach to the detection of harmful algae in water monitoring

Stefanie Penzel, Mathias Rudolph, Helko Borsdorf, Olfa Kanoun

New Product Development Methodology with Using Sustainability Driven QFD and Neutrosophic Sets: A Case Study of the Aircraft Stabilizer

Sezen Ayber, Nihal Erginel

Net-Zero Policy Performance Assessment South America Countries through DEA Method

Mehtap Dursun, Rana Duygu Alkurt

ONLINE 14.00 - 15.30 Chair: Elif Haktanir Aktas Room: Burgazada **SESSION** 1.4

Regularity and Paracompactness in Fuzzy Topological Spaces

Francisco Gallego Lupiáñez

A new construction of uninorms in bounded lattices derived from t-norms and t-conorms

Gul Deniz Cayli

Comparison of E-Commerce Sites with Pythagorean Fuzzy AHP and TOPSIS Methods

Beste Desticigözü Tasdemir, Sena Kumcu, Bahar Ozyoruk

An Automatic Service Rating System Based on Review Sentiments and Intuitionistic Fuzzy Sets

Mustafa Ünver

ONLINE 14.00 - 15.30 Chair: Eda Bolturk Room: Sedef Adasi **SESSION** 1.5

Stabilization of a D.C Motor Controller using an Interval Type-2 Fuzzy Logic System designed with the Bee Colony Optimization Algorithm

Gloria Leticia Amador-Angulo, Oscar Castillo

Monitoring sleep-related disorders via artificial intelligence methods

Olena Mihknova

An Integrated Fuzzy Decision-Making Approach to Emergency Evacuation based on HF ELECTRE

Evgeniya Gerasimenko, Alexander Bozhenyuk, Sergey Gorbachev

Fuzzy Logic Control for Color-Tunable Lighting Systems

Rahib Imamguluyev

Fuzzy Logic Approach in Failure Mode and Effects Analysis: Glass Industry Application

İrem Düzdar Argun, Tuğçe Özdemir

15.30 - 15.45 Coffee Break

SESSION 2

ONSITE 15.45 - 17.15 Chair: Sezi Cevik Onar Room: Buyukada **SESSION** 2.1

A fuzzy system for forecasting mild cognitive impairment

Cheng-Li Liu, Che-Jen Chuang, Kuo-Wei Su

Analyzing Customer Requirements Based On Text Mining Via Spherical Fuzzy QFD

Sezen Ayber, Nihal Erginel, Mustafa Ünver, Gökhan Göksele, Ahmet Aydın

Fuzzy Multicriteria Decision Making in Earthquake Supply Chain Management: A Literature Review

Sezi Cevik Onar, Cengiz Kahraman, Basar Oztaysi

An initial research on comparison of Fuzzy AHP and Classical AHP Methods

Basar Oztaysi, Sezi Cevik Onar, Cengiz Kahraman

Application of Fuzzy c-Means and Fuzzy AHP for the Classification of XTEKS Companies During COVID-19 Pandemic

Fatih Yigit

ONSITE 15.45 - 17.15 Chair: Irem Ucal Sari Room: Heybeliada **SESSION** 2.2

Petrol Station Franchisor Selection through Circular Intuitionistic Fuzzy Multicriteria Analysis

Velichka Traneva, Stoyan Tranev

Two-Way ANOVA for Fuzzy Observations and an Implication

Zeynep Gokkus, Sevil Senturk, Taner Yildiz, Elcin Yesiloglu Cevher

Q-Runng Orthopair Fuzzy Benefit/Cost Analysis

Eda Bolturk

Enhancing E-Commerce Query Expansion using Generative Adversarial Networks (GANs)

Altan Cakir, Mert Gurkan

Analysis of the factors behind the value of an agency for an airline

Irem Ucal Sari, Muhammed Fatih Ozer

ONLINE 15.45 - 17.15 Chair: Esra Ilbahar Room: Kinaliada **SESSION** 2.3

Market Risk Assessment by Expert Knowledge Compilation Using a Fuzzy Maximin Convolution

Ramin Rzyayev, Elmar Aliev, Jamirza Aghajanov, Inara Rzyayeva

A Novel Risk Assessment Approach: Decomposed Fuzzy Set-Based Fine-Kinney Method

Selcuk Cebi, Palanivel Kaliyaperumal

An Intelligent Fuzzy Functional Resonance Analysis Model on System Safety and Human Factors

Esmail Zarei, Mohammad Yazdi, Brian J Roggog, Ahmad BahooTorood

Interval Type-2 Fuzzy CODAS: An application in Flight Selection Problem

Erdem Akin, Basar Oztaysi

Risk Assessment on the Grinding Machine with SWARA/ARAS and Visual PROMETHEE based on Unstable Fuzzy Linguistic Terms

Turgay Duruel, Bahadır Gulsun

ONLINE 15.45 - 17.15 Chair: Alize Yaprak Gul Room: Burgazada **SESSION** 2.4

3-D Face Reconstruction Method Using Deep Learning Based Simulated Annealing

Fei Chen, Bing Guan, Sumi Kim, Jaeho Choi

An Unsupervised Defect Detection of Rail Surface Using Generative Adversarial Networks

Ilhan Aydin, Mehmet Sevi

Intelligent Classification of Defective Rails through GAN and Ensemble Predictive Model

Mehmet Sevi, Ilhan Aydin

Intelligent network monitoring system using an ISP central points of presence

Yousef Alkhanafseh, Mahsun Altın, Altan Cakir, Esra Karabiyik, Ekrem Yildiz, Sencan Akyuz

Demand Forecasting in Pharmaceutical Industry under Covid-19 Pandemic Conditions by Machine Learning and Time Series Analysis

Irem Tas, Sule Ilir Satoglu

ONLINE 15.45 - 17.15 Chair: Elif Haktanir Aktas Room: Sedef Adasi **SESSION** 2.5

Picture Fuzzy Graph Coloring Method for Determining Traffic Phase Scheduling on an Intersection

Isnaini Rosyida, Ch. Rini Indrati, Sunny Joseph Kalayathankal

A new method of smart city modeling using big data techniques

Muhammet Siddik Emek, Ismail Parlak

Clustering Airbnb Listings in Istanbul Using Unsupervised Machine Learning Techniques

Mehmet Ata Özçini, Tuna Yılmaz, Tolga Kaya

Using LSTM as intelligent machine learning method to forecast the annual average relative humidity: A case study for Konya, Türkiye

Abubakar MAYANJA, Şule ERYÜRÜK, Kağan ERYÜRÜK

Machine Learning Prediction of Wind Turbine Energy Production

Osman Emin Erdem, Ahmet Sarucan, Mehmet Emin Baysal

17.15 - 17.30 Coffee Break

SESSION 3

ONSITE 17.30 - 19.00 Chair: Irem Ucal Sari Room: Buyukada **SESSION** 3.1

Artificial Intelligence and Household Energy-Saving Policies: A Literature Review

Samrand Toufani, Irem Ucal Sari, Gizem Intepe

Picture Fuzzy Z-AHP: Application to Panel Selection of Solar Energy

Nurdan Tuysuz, Cengiz Kahraman

An application with fuzzy AHP for making the assignment aimed at the holistic benefit over the person evaluation as required by the requirements and evaluations of individuals

İbrahim Yel, Hilal Şahin, Mehmet Emin Baysal, Ahmet Sarucan

An Application for Selecting and Evaluating Organization Based KPIs with Fuzzy MCDM in a Large-Scale Organization Operating in the IT Sector

İbrahim Yel, Mehmet Emin Baysal, Ahmet Sarucan

An Application for Evaluating Proficiency and Expert Knowledge Criteria of Information Technologies (IT) Workers with Using Fuzzy Analytic Hierarchy Process

Ali Tunc, Şakir Taşdemir, Mehmet Taha Uyar, Veysel Can Bingöl

ONSITE 17.30 - 19.00 Chair: Başar Öztaysi Room: Heybeliada **SESSION** 3.2

Joint Application of the FCM and Structural Shift Detection Algorithms in Monitoring Tasks

Zinaida Avdeeva, Elena Grebenyuk, Svetlana Kovriga

LR-Type Spherical Fuzzy Numbers and Their Usage in MCDM Problems

Cengiz Kahraman, Sezi Cevik Onar, Başar Öztaysi

Picture Fuzzy Internal Rate of Return Analysis

Elif Haktanir Aktas

An Application of Fuzzy ANOVA on Field of Agricultural Machinery

Zeynep Gokkus, Sevil Senturk, Taner Yildiz, Elcin Yesiloglu Cevher

Procurement performance metric selection using SCOR modelling and scenario-based Fuzzy Cognitive Map

Ayca Maden, S. Emre Alptekin

ONLINE 17.30 - 19.00 Chair: Murat Gulbay Room: Kinaliada **SESSION** 3.3

Classification of Land Cover based on Deep Learning Technique and High-Resolution UAV Images

Ching-Lung Fan

Structured Neural Network Based Quadcopter Control Under Overland Monitoring

Ali Abbasov, Ramin Rzyayev, Tunjay Habib-bayli, Murad Aliyev

Decomposed Fuzzy Set-Based Failure Mode and Effects Analysis for Occupational Health and Safety Risk Assessment

Selcuk Cebi

A novel fuzzy-clustering-based deep learning approach for spatio-temporal traffic speed prediction

Jiyao An, Ju Fang, Xuan Zhang, Qingqin Liu

PD-Type-2 Fuzzy Neural Network Based Control of a Super-Lift Luo Converter Designed for Sustainable Future Energy Applications

Ahmet Gani

ONLINE 17.30 - 19.00 Chair: Irem Otay Room: Burgazada **SESSION** 3.4

On monotonic function method for generating fuzzy similarity measures

Surender Singh, Koushal Singh

Blockchain: Architecture, Security and Consensus Algorithms

Taher Abouzaid Abdel Aty Abdel Bary, Basem Mohamed Elomda, Hesham Ahmed Hassan

A dynamic feature selection technique for the stock price forecasting

Mahmut Sami Sivri, Ahmet Berkay Gultekin, Alp Ustundag, Omer Faruk Beyca, Omer Faruk Gurcan, Emre Ari

Mathuristic Algorithm for Automated Guided Vehicle (AGV) Assisted Intelligent Order Picking

Simge Güçlükel Ergin, Mahmut Ali Gökçe

Fuzzy Model for Multi-Objective Airport Gate Assignment Problem

Mert Paldrak, Melis Tan Tacoglu

ONLINE 17.30 - 19.00 Chair: Zeynep Kizilkan Room: Sedef Adasi **SESSION** 3.5

Honeywell experion hive as breakthrough approach in control systems evolution

Nodirdek Yusupbekov, Farukh Adilov, Maksim Astafurov, Arsen Ivanyan

Some Properties of a New Concept of Fractional Derivative for Fuzzy Functions on Time Scales

Mina Shahidi, Estevão Esmi

Navigating the Ethics of the Metaverse: A Fuzzy Logic Approach to Decision-Making

Rahib Imamguluyev, Niyar Umarova, Rena Mikayilova

Application of Digital Twin technology for live Process Control System of industrial facility

Nodirbek Yusupbekov, Farukh Adilov, Arsen Ivanyan

Level of Automation Assessment for Controlled-Environment Hydroponic Agriculture via Fuzzy MCDM Method

Sarper Alem, Biset Toprak, Büke Tolga, A. Çağrı Tolga

ONLINE 17.30 - 19.00 Chair: Nursah Alkan Room: Kasik Adasi **SESSION** 3.6

A real-time assessment method based on the detection of human facial emotions

Bhupinder Singh, Divyansh Tak, Swapnil Verma

Geoinformation Model for Smart Grid Sustainability Management

Stanislav Belyakov, Alexander Bozhenyuk, Leontiy Samoylov, Polina Nikashina

Study of Multiverse Optimizer variations with Chaos theory and Fuzzy logic over benchmark optimization

Lucio Amezcua, Oscar Castillo, Jose Soria, Prometeo Cortes-Antonio

An International Hub Airport Selection Problem Using Fuzzy Analytic Hierarchy Process (F-AHP): Real Case Study in Turkey

Melis Tan Tacoglu, Mert Paldrak, Mustafa Arslan Örneç, Caner Taçoğlu

Intelligent Benders' Decomposition Algorithm for Sequencing Multi-Model Assembly Line with Sequence Dependent Setup Times Problem: A Case Study in a Garment Industry

Elvin Sarı, Mert Paldrak, Yaren Can, Tunahan Kuzu, Sude Dila Ceylan, Devin Duran, Mustafa Arslan Örneç, Ozan Can Yıldız

19.30 - 21.00 Welcome Cocktail

SCAN ME



DAY 2

August 23rd, 2023
Wednesday

09.00 - 19.00 | Registration

Keynote Speakers

ON SITE 09.30 - 10.15 | Chair: A. Cagri Tolga | Room: Buyukada | **KEYNOTE 5**

Optimal transport and the Wasserstein distance for fuzzy measures: An example
Prof. Vicenc Torra

ON SITE 10.15 - 11.00 | Chair: A. Cagri Tolga | Room: Buyukada | **KEYNOTE 6**

Mathematics, Scientific Reasoning and Fuzzy Logic
Prof. Ahmet Fahri Ozok

11.00 - 11.15 | Coffee Break

SESSION 4

ON SITE 11.15 - 12.45 | Chair: Vaselina Bureva | Room: Buyukada | **SESSION 4.1**

Generalized Net Model of Quality of Service Estimation of Overall Telecommunication System Including a Security Stage
Velin Andonov, Stoyan Poryazov, Emiliya Saranova

Measuring Happiness: Evaluation of Elementary School Students' perception of Happiness assessed by Intuitionistic Fuzzy Logic
Gergana Avramova-Todorova, Veselina Bureva

Selecting an employer: Evaluation of university students' perception about business companies assessed by intuitionistic fuzzy logic
Milen Todorov, Veselina Bureva

Intuitionistic Fuzzy Evaluations of Garbage Sorting using a Robotic Arm
Petar Petrov, Veselina Bureva, Krassimir Atanassov

Prioritization of User Strategies for mHealthcare App Selection
Gülçin Büyükoğuzkan, Fethullah Göçer

ON SITE 11.15 - 12.45 | Chair: Cengiz Kahraman | Room: Heybeliada | **SESSION 4.2**

Estimating the Success Likelihood of Variant Price Promotion Schemes: A Machine Learning Approach
Burak Kilerciik, Ömer Zeybek

Store Segmentation using Machine Learning Methods: An Organized Supermarket Chain Case
İskender Ülgen Ogul, Ömer Zeybek

Socio-Economic Development Index Estimation for Small Area Urban Neighbourhoods : A Machine Learning Approach
Ulaş Yelkanat, Ömer Zeybek

Workforce Prediction with Machine Learning Algorithms for an FMCG Retailer
Furkan Oral, Mustafa Kaan Aslan, Buse Mert, Birol Yüceoglu

ONLINE 11.15 - 12.45 | Chair: Beril Akkaya | Room: Kinaliada | **SESSION 4.3**

Formation of the Academic Index of a University Teacher Based on Weighted Evaluation Criteria
Misir Mardanov, Elchin Aliyev, Ramin Rzayev, Khanmured Abdullayev

Optimization and Intellectualization of Adaptive Control of Investment Projects of Multi-Agent Network Industrial Complexes with Fuzzy Data
Andrey Shorikov, Elena Butsenko

Intelligent Software for Optimizing Adaptive Control of Regional Investment Projects with Fuzzy Data
Andrey Shorikov, Elena Butsenko

Multiple neural networks for clustering and prediction of the particulate matter (PM2.5): A case study of Beijing
Martha Ramirez, Patricia Melin

Intelligent Flight Scheduling for Transit Passengers by Introducing New flights in Hub-and-Spoke Network
Melis Tan Tacoglu, Mustafa Arslan Örneç

ONLINE 11.15 - 12.45 | Chair: Eda Bolturk | Room: Burgazada | **SESSION 4.4**

Signal Recognition Using Weighted Additive Convolution of Evaluation Criteria
Ramin Rzayev, Azer Kerimov

First-Order Representations and Calculi of Categorical Propositions
Yinsheng Zhang

Properties of general extensional fuzzy cuts
Jiří Močkoř

An Application of the Fuzzy TODIM method for Evaluating Closed-Loop Supply Chain's Reproduction Process in E-Waste
Yiğit Kazançoğlu, Melis Tan Tacoglu

ONLINE 11.15 - 12.45 | Chair: Esra İlbahar | Room: Sedef Adasi | **SESSION 4.5**

Application of Fuzzy AHP Method for Selection of Equipment for Concrete Works
Natasja Prascovic

The use of Z-numbers to assess the level of motivation of employees, taking into account non-formalized motivational factors
Ramiz Alekperov

Epic Poetry Summarization and Visualization by Using Sentiment Analysis, Topic Modeling and DALL-E
Derya Köşnek, Sinem Bozdağ, Tolga Kaya

A Proposed Method for Aircraft Selection using Inter-Valued Spherical Fuzzy Analytic Hierarchy Process
Murat Levent Demircan, Tuba Kaplan

12.45 - 14.00 | Lunch

SESSION 5

ON SITE 14.00 - 15.30 | Chair: A. Cagri Tolga | Room: Buyukada | **SESSION 5.1**

An Algorithm for Fully Intuitionistic Fuzzy Multiobjective Transportation Problem with a Goal Programming Perspective
Sakshi Dhruv, Ritu Arora, Shalini Arora

Design of a Fuzzy Linear Quadratic Regulator for the Speed Control of SPMSM
Kursad M. Gul, Ayhan Kural, Tufan Kumbasar

Site selection of solar powered electric vehicle smart charging station: Istanbul case
Serra Mandacı, Çağrı Tolga

Cash Replenishment and Vehicle Routing Improvement for Automated Teller Machines
Deniz Orhan, Müjde Erol Genevois

Rough data envelopment analysis: An application to Indian agriculture
Alka Arya, Adel Hatamimarbini, Pegah Khoshnevis

ON SITE 14.00 - 15.30 | Chair: Murat Gulbay | Room: Heybeliada | **SESSION 5.2**

Fuzzy Threshold Aggregation
Alexander Lepskiy

A Framework of Directed Network Based Influence-Trust Fuzzy Group Decision Making
Nor Hanimah Kamis, Adem Kilicman, Northidayah A. Kadir, Francisco Chiclana

Generalized net model with intuitionistic fuzzy estimations of the humanoid robot behavior during navigation tasks
Simeon Ribagin, Sotir Sotirov, Krassimir Atanassov

Intuitionistic fuzzy generalized net model of a human-robot interaction
Simeon Ribagin, Sotir Sotirov, Evdokia Sotirova

Evolution of Fuzzy Sets: A Comprehensive Literature Review
Murat Gülbay, Cengiz Kahraman

ONLINE 14.00 - 15.30 | Chair: Fatma Kutlu Gundogdu | Room: Kinaliada | **SESSION 5.3**

Unfolding Computation Graph for Dynamic Planning Under Uncertainty
Margarita Knyazeva, Alexander Bozhenyuk, Leontiy Samoylov

Strong Connectivity Definition of Periodic Fuzzy Graph
Alexander Bozhenyuk, Margarita Knyazeva, Olesiya Kosenko, Igor Rozenberg

An Application of Cooperative Game Theory in Oil Refining Sites: Case Study of Dora Refinery in Iraq
Eman H. Ouda, Shaymaa H. Khazaal, Jabbar Abbas

Similarity Analysis of Means-End Chain Models
Umut Asan, Hatice Kocaman

Data Driven Positioning Analysis Using Customer Reviews of Music Streaming Platforms
Ayse Basak Incekas, Umut Asan

ONLINE 14.00 - 15.30 | Chair: Onur Doğan | Room: Burgazada | **SESSION 5.4**

The Present and Future Role of Artificial Intelligence in the Promotion of Sustainable Practices in the Construction Sector
Er. Aditya Singh

Reverse order Pentagonal Fuzzy Numbers and its Application in Game Problems
V. Kamal Nasir, A. Jamal Barakath

Design of 2 DOF Fuzzy Control System for Fuel Cell Systems
Fatih Kendir, Tufan Kumbasar

A Fuzzy Mixed-Integer Linear Programming Model for Aircraft Maintenance Workforce Optimization
Safacan Hasancebi, Gülferm Tuzkaya, Huseyin Selcuk Kilic

Analysis of Suppliers' Resilience Factors under Uncertainty
Fatma Cayvaz, Huseyin Selcuk Kilic, Gülferm Tuzkaya

ONLINE 14.00 - 15.30 | Chair: Alize Yaprak Gul | Room: Sedef Adasi | **SESSION 5.5**

Application of the Crow Search Algorithm for dynamic route optimization
Hubert Zarzycki

Earthquake predictions using Machine Learning and Acoustic Emissions
Ioannis Sioutas, Maria Drakaki, Vasileios Linardos, Panagiotis Tzionas

LR-Type Z Fuzzy Numbers and Their Usage in MCDM Problems
Cengiz Kahraman, Sezi Cevik Onar, Başar Öztayşi

Circular Intuitionistic Fuzzy PROMETHEE Methodology: A case of Smart Cities Evaluation
Esra Cakir, Emre Demircioğlu

Classification of Fuzzy MCDM Literature Applied to Humanitarian Logistics Problems
İbrahim Miraç Eligüzel, Eren Özceylan

15.30 - 15.45 | Coffee Break

SESSION 6

ON SITE 15.45 - 17.15 | Chair: Gülçin Büyükoğuzkan | Room: Heybeliada | **SESSION 6.1**

Evaluating the Impact of Risk Component in Supply Chain Management using Intuitionistic Fuzzy Cognitive Map
Hasibe Berfu Demir, Şule Onsel Ekici

Sustainable Future Technology Evaluation with Digital Transformation Perspective in Air Cargo Industry using IF ANP Method
Cefal Alpay Havle, Gülçin Büyükoğuzkan

Performance Evaluation of Higher Education Institutions Employing Analytical Techniques
Nazlı Goker, Mehtap Dursun

Multi-Criteria Performance Evaluation Framework For Humanitarian Relief Organizations Using Spherical Fuzzy-TOPSIS
Sezin Gülyüz

Sustainable Supplier Selection in Fuzzy Environment: A Case Study in Turkey
İlgaz Cerit, Tuncay Gürbüz

Assessment of Sustainable Energy Resources with Hesitant Fuzzy Linguistic AHP-MULTIMOORA Methods
Esin Mukul, Merve Güler, Gülçin Büyükoğuzkan

ON SITE 15.45 - 17.15 | Chair: Nursah Alkan | Room: Buyukada | **SESSION 6.2**

A Novel Continuous Intuitionistic Fuzzy CODAS Method and Its Application to IOT Service Provider Selection for Sustainable Supply Chain
Nursah Alkan, Cengiz Kahraman

MEConvNN-Designing Memory Efficient Convolution Neural Network for Visual Recognition of Aerial Emergency Situations
Unse Fatima, Junbom Pyo, YeongMin Ko, Moongu Jeon

Social Media Tri-Domain Analysis for detection of potential/ likely malicious users
Khan Zafran, Yechan Kim, Yeonsu Seoul, Moongu Jeon

An optimal model for integer programming problems based on fuzzy membership functions with comparative analysis
Palanivel Kaliyaperumal

Generating High-Quality Prediction Intervals for Regression Tasks via Fuzzy c-Means Clustering-based Conformal Prediction
Saleh Msaddi, Tufan Kumbasar

ONLINE 15.45 - 17.15 | Chair: Zeynep Kizilkan | Room: Kinaliada | **SESSION 6.3**

Electroencephalograms Processing Methods for Research of Verbal Intelligence
Oksana Kharchenko, Zlatinka Kovacheva

Fuzzy Color Computing Based on Optical Logical Architecture
Victor Timchenko, Yuriy Kondratenko, Oleksiy Kozlov, Vladik Kreinovich

Cryptography Based on Fuzzy Graphs
Mariana Durcheva, Malinka Ivanova

Assessment of Cancer Detection from CT scan images using Hybrid Supervised Learning methods
Panuganti Sai Sri Vaishnav, Bhupinder Singh

Fuzzy Goal Programming Model for Sequencing Multi-Model Assembly Line with Sequence Dependent Setup Times in Garment Industry
Elvin San, Mert Paldrak, Tunahan Kuzu, Devin Duran, Yaren Can, Sude Dila Ceylan, Mustafa Arslan Örneç, Başak Erol

ONLINE 15.45 - 17.15 | Chair: İrem Otay | Room: Burgazada | **SESSION 6.4**

Aggregating distances with uncertainty: the modular (pseudo-)metric case
Maria del Mar Bibiloni-Femenias, Juan José Miñana Prats, Oscar Valero

Fuzzy Multi-Criteria Sorting Models FMAVT-Sort and FTOPSIS-Sort: Features and Application within the Case Studies
Alexander Radaev, Elif Haktanir, Boris Yatsalo, Cengiz Kahraman

Hybrid fuzzy approach for bus type selection: IETT Case Study
Busra Buran, Mehmet Erçek

Fuzzy Goal Programming Approach to Multi-Objective Facility Location Problem for Emergency Goods and Services Distribution
Mert Paldrak, Simge Güçlüoçul Ergin, Gamze Erdem, Melis Tan Tacoglu

ONLINE 15.45 - 17.15 | Chair: Esra İlbahar | Room: Sedef Adasi | **SESSION 6.5**

An intelligent data analysis approach for women with menopausal genitourinary syndrome with intuitionistic fuzzy logic
Pavel Dobrev, Evdokia Sotirova

On a Hybrid Intuitionistic Fuzzy Method for Breast Cancer Classification
Evdokia Sotirova, Hristo Bozov, Radovesta Stewart, Sotir Sotirov, Pavel Dobrev

Evaluation of Mechanical Energy Storage Technologies in the Context of a Fuzzy Environment
Ahmet Sarucan, Mehmet Emin Baysal, Orhan Engin

Optimization of Alkaline Zinc Plating Process in a Company Using Taguchi Model Based on Fuzzy Logic
Furkan Atik, Ahmet Sarucan

Evaluation of Interior Spaces in Educational Areas in terms of Prospect and Refuge Theory Using Fuzzy Logic
Kubra Yılmaz Senel, Asli Çekmiş

17.15 - 17.30 | Coffee Break

SESSION 7

ON SITE 17.30 - 19.00 | Chair: Beril Akkaya | Room: Buyukada | **SESSION 7.1**

Social Spider Optimization for Text Classification Enhancement
Fawaz Al-Anzi, Sumi Sarath

Peterson's Rules based on Grades for Fuzzy Logical Syllogisms
Petra Murinová, Michal Burda, Viktor Pavliska

Circular Intuitionistic Fuzzy Analysis of Variance on the Factor Season of Apple Sales
Velichka Traneva, Stoyan Tranev

A Novel Decision-Making Framework Based on Interval-valued Pythagorean Fuzzy AHP & CODAS: An Application to Healthcare Supplier Selection
İrem Otay, Bayram Bulut, Kaan Barutbaş, Ayşe Ecem Arat, Emre Tekin, Zeynep Şevval Gürz

A Literature Review on Fuzzy ELECTRE Methods
Beril Akkaya, Cengiz Kahraman

ON SITE 17.30 - 19.00 | Chair: Palanivel Kaliyaperumal | Room: Heybeliada | **SESSION 7.2**

A study of Future Life Satisfaction Using Fuzzy Partition
S. H. Choi, N.H. Lee, M. Y. Kim

Two-stage transportation model for distributing relief aids to the affected regions in an emergency response under uncertainty
Jency Leona Edward, Palanivel Kaliyaperumal

Selection of Fighter Aircraft for Turkish Air Forces Under Uncertain Environment
Yusuf Çiççi, Akın Metin, Tank Tuğra Arslan, Fatma Kutlu Gündoğdu

Drug Delivery in Chemotherapy Using an Online Wavelet-Based Neural Network
Pariya Khalili, Mansour Ansari, Ali Akbar Safavi, Ramin Vatankehah

A fuzzy based optimization model for nonlinear programming with Lagrangian Multiplier Conditions
Palanivel Kaliyaperumal, Selcuk Cebi

ONLINE 17.30 - 19.00 | Chair: Onur Dogan | Room: Kinaliada | **SESSION 7.3**

Analyzing and Responding to Google Maps Reviews with a Chatbot in Healthcare
Ekin Akkol, Onur Doğan

Fault-Tolerant Control Using Optimized Neurons in Feed-forward Backpropagation Neural Network-For MIMO Uncertain System: A Metaheuristic Approach
Sejal Raval

Flight Gate Assignment Problem with Reinforcement Learning
Müge Muhafız Yıldız, Umut Avcı, Mustafa Arslan Örneç, Cemalettin Öztürk

Classifying the Success of Transfers Made by Turkish Super-League Teams Using Advanced Machine Learning Techniques
Serhan Berke Erden, Unal Berke Kaymak, Tolga Kaya

A Case of Customer Segmentation in the Saving and Finance Industry
Fidan Khalilbayr, Zekeriya Köse

ONLINE 17.30 - 19.00 | Chair: Alize Yaprak Gul | Room: Burgazada | **SESSION 7.4**

Vehicle and Pedestrian Crash Risk Modeling in Arabian Gulf Region
Sharaf AlKheder

Biometric Identification of Hand by Particle Swarm Optimization (PSO) Algorithm
Hatem Ghodbane, Hichem Amar, Monir Amir, Badreddine Babes, Nouredine Hamouda

Application of Extrapolation Methods for Predicting Traffic Flows Using Elements of Fuzzy Logic
Ramin Rzayev, Emil Ahmadov

Analysis of various portfolio allocation decision-making techniques in crypto assets using fuzzy sets
Murat Levent Demircan, Tayfun Dirinda

Robust parameter estimation with orthogonal regression using interval constraint satisfaction technique
Sejal Raval, Kamlesh Raval, Dipesh Makwana, Paresh Kotak

ONLINE 17.30 - 19.00 | Chair: Zeynep Kizilkan | Room: Sedef Adasi | **SESSION 7.5**

On Characterizations of Watson Crick Intuitionistic Fuzzy Automata
N. Jansirani, N. Vijayaraghavan, V. R. Dare

The ELECTRE Method for Hesitant Fuzzy Multi-Attribute Decision-Making in Emergency Evacuation
Evgeniya Gerasimenko, Alexander Bozhenyuk

An intelligent system for determination of stop-loss and take - profit limits: a dynamic decision learning approach
Mahmut Sami Sivri, Ahmet Berkay Gültekin, Alp Ustundag, Omer Faruk Beyca, Emre Ari, Omer Faruk Gurcan

Evaluation of MENA Countries in views of SDG6 Targets using a Hybrid MCDM approach
Serhat Aydın, Ahmet Aktaş, Mehmet Kabak, Cengiz Kahraman

19.15 - 19.45 | Award Ceremony

20.00 - 23.00 | Gala Dinner

