

2019 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2019)

**New Orleans, Louisiana, USA
23 – 26 June 2019**

Pages 1-689



**IEEE Catalog Number: CFP19FUZ-POD
ISBN: 978-1-5386-1729-8**

**Copyright © 2019 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP19FUZ-POD
ISBN (Print-On-Demand):	978-1-5386-1729-8
ISBN (Online):	978-1-5386-1728-1
ISSN:	1544-5615

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

JUST-IN-TIME SUPPLY CHAIN MANAGEMENT USING INTERVAL TYPE-2 FUZZY DECISION MAKING	1
<i>Thomas A. Runkler ; Chao Chen ; Simon Coupland ; Robert John</i>	
STUDY OF AN ABATING AGGREGATION OPERATOR IN MANY-VALUED LOGIC	7
<i>Adrien Revault D'Allonnes ; Marie-Jeanne Lesot</i>	
WU-MENDEL APPROACH FOR LINGUISTIC SUMMARIZATION: PRACTICAL CONSIDERATIONS AND SOLUTIONS	13
<i>Vugar Mirzakhánov ; Latafat Gardashova</i>	
NEURO-FUZZY CONTROLLER FOR AXIAL FLUX PERMANENT MAGNET GEARLESS GENERATOR	21
<i>Sedat Nazlibilek ; Esmail Mohammed</i>	
OPTIMAL RANKING OF FACTORS AFFECTING STUDENTS' ACADEMIC PERFORMANCE BASED ON BELIEF AND PLAUSIBILITY MEASURES	27
<i>Satish S. Salunkhe ; Yashwant Joshi ; Ashok Deshpande</i>	
GAUSSIAN NOISE AND THE INTERSECTION PROBLEM IN HUMAN-ROBOT SYSTEMS - ANALYTICAL AND FUZZY APPROACH	33
<i>Rainer Palm ; Achim Lilienthal</i>	
INTRODUCE A NOVEL "STEAMS" METHODOLOGY OF CONDUCTING SCIENTIFIC RESEARCH	39
<i>Mason Chen</i>	
FUZZY CONTROL TECHNIQUES APPLIED TO WIND TURBINE SYSTEMS AND HYDROELECTRIC PLANTS	45
<i>Silvio Simani ; Stefano Alvisi ; Mauro Venturini</i>	
DETECTION OF DYNAMIC OBJECTS IN VIDEOS USING LBSP AND FUZZY GRAY LEVEL DIFFERENCE HISTOGRAMS	51
<i>Abimael Guzmán-Pando ; Mario I. Chacon-Murguía</i>	
ROBUST GRANULAR FEEDBACK LINEARIZATION	57
<i>Lucas Oliveira ; Valter Leite ; Anderson Bento ; Fernando Gomide</i>	
MINING FUZZY-TEMPORAL GRADUAL PATTERNS	63
<i>Dickson Owuor ; Anne Laurent ; Joseph Orero</i>	
BETWEEN DOG AND WOLF: A CONTINUOUS TRANSITION FROM FUZZY TO PROBABILISTIC ESTIMATES	69
<i>Martine Ceberio ; Olga Kosheleva ; Vladik Kreinovich ; Luc Longpré</i>	
IN ITS USUAL FORMULATION, FUZZY COMPUTATION IS, IN GENERAL, NP-HARD, BUT A MORE REALISTIC FORMULATION CAN MAKE IT FEASIBLE	74
<i>Martine Ceberio ; Olga Kosheleva ; Vladik Kreinovich ; Luc Longpré</i>	
A NEW INSIGHT ON THE MAPPINGS OF TYPE-2 FUZZY LOGIC SYSTEMS	80
<i>Tufan Kumbasar</i>	
THE IOWA OPERATOR WITH BONFERRONI MEANS	86
<i>Fabio Blanco-Mesa ; Ernesto León-Castro ; Jose M. Merigo</i>	
EXPLICLAS: AUTOMATIC GENERATION OF EXPLANATIONS IN NATURAL LANGUAGE FOR WEKA CLASSIFIERS	91
<i>Jose M. Alonso ; A. Bugarín</i>	
PY4JFML: A PYTHON WRAPPER FOR USING THE IEEE STD 1855-2016 THROUGH JFML	97
<i>Jesús Alcalá-Fdez ; Jose M. Alonso ; Ciro Castiello ; Corrado Mencar ; José M. Soto-Hidalgo</i>	
A SORTING METHOD: BWMSORT II IN INTERVAL TYPE-2 FUZZY ENVIRONMENT	103
<i>Jun Liu ; Zhou Xu ; Jindong Qin</i>	
DIGITAL COACHING TO MAKE FUZZY REAL OPTIONS METHODS VIABLE FOR INVESTMENT DECISIONS	109
<i>Christer Carlsson</i>	
REACHABLE ESTIMATION AND COMPENSATION BOUNDARIES FOR THE LARGE-SCALE INTERCONNECTED FUZZY SYSTEMS	115
<i>Zhixiong Zhong ; Hao Ying ; Zhijie Huan ; Wenzhong Lin ; Xingyi Wang</i>	
ON THE COMPARISON OF FUZZY INTERPOLATIONS AND NEURAL NETWORK FITTING FUNCTIONS IN MODELESS ROBOT CALIBRATIONS	121
<i>Ying Bai ; Dali Wang</i>	

DYNAMIC SCALING ADAPTIVE FUZZY OUTPUT FEEDBACK CONTROL OF NONSTRICT-FEEDBACK SYSTEMS	127
<i>Jeng-Tze Huang ; Yu-Cheung Law</i>	
EXPLORING THE IMPACT OF EVOLUTIONARY COMPUTING BASED FEATURE SELECTION IN SUICIDAL IDEATION DETECTION	133
<i>Ramit Sawhney ; Rajiv Ratn Shah ; Vedant Bhatia ; Chin-Teng Lin ; Sagar Aggarwal ; Mukesh Prasad</i>	
FINITE FREQUENCY STATE FEEDBACK CONTROLLER DESIGN FOR T-S FUZZY CONTINUOUS SYSTEMS	139
<i>Abderrahim El-Amrani ; Ahmed El Hajjaji ; Ismail Bounhidi ; Abdelaziz Hmamed</i>	
SAMPLING USING FUZZY AND CRISP CLUSTERING TO IMPROVE RECALL OF BUILDING COMFORT FEEDBACK	145
<i>Ross Macdonald ; Nikita Neveditsin ; Pawan Lingras ; Zheng Qin ; Trent Hillard</i>	
FUZZY QUANTIFIERS AND COMPOSITIONS OF PARTIAL FUZZY RELATIONS EMPLOYING DRAGONFLY ALGEBRAS	151
<i>Nhung Cao ; Martin Štepnicka ; Michal Burda</i>	
A NEW FUZZY CLUSTERING ALGORITHM FOR INTERVAL-VALUED DATA BASED ON CITY-BLOCK DISTANCE	157
<i>Sara Inés Rizo Rodríguez ; Francisco De Assis Tenório De Carvalho</i>	
SENTIMENT CLASSIFICATION OF DRUG REVIEWS USING FUZZY-ROUGH FEATURE SELECTION	163
<i>Tianhua Chen ; Pan Su ; Changjing Shang ; Richard Hill ; Hengshan Zhang ; Qiang Shen</i>	
NOTES ON THE DYNAMICS OF HYPERBOLIC TANGENT FUZZY COGNITIVE MAPS	169
<i>István Á. Harmati ; László T. Kóczy</i>	
A NOVEL FRAMEWORK OF FUZZY RULE INTERPOLATION FOR TAKAGI-SUGENO-KANG INFERENCE SYSTEMS	175
<i>Pu Zhang ; Qiang Shen</i>	
N-DIMENSIONAL INTERVAL UNINORMS	181
<i>Ivan Mezzomo ; Benjamín Bedregal ; Thadeu Milfont ; Tiago Da Cruz Asmus ; Humberto Bustince</i>	
COMPARISON OF TIME SERIES APPROACHES APPLIED TO GREENHOUSE GAS ANALYSIS: ANFIS, RNN, AND LSTM	187
<i>Simone A. Ludwig</i>	
AN INTELLIGENT CONTROL OF AN INVERTED PENDULUM BASED ON AN ADAPTIVE INTERVAL TYPE-2 FUZZY INFERENCE SYSTEM	193
<i>Ayad Al-Mahturi ; Fendy Santoso ; Matthew A. Garratt ; Sreenatha G. Anavatti</i>	
FUZZY APPROACH FOR GROUP ASSESSMENT BASED ON THE CONSISTENCY OF INDIVIDUAL JUDGMENTS	199
<i>Tomoe Entani</i>	
METHOD SELECTING CORRECT ONE AMONG ALTERNATIVES UTILIZING INTUITIONISTIC FUZZY PREFERENCE RELATION WITHOUT CONSENSUS REACHING PROCESS	205
<i>Hengshan Zhang ; Qinghua Zheng ; Zhongmin Wang ; Yanping Chen ; Ting Liu ; Tianhua Chen</i>	
GENE-PROMOTER-SEQUENCE RECOGNITION – AN INTERPRETABLE AND ACCURATE FUZZY-GENETIC APPROACH	211
<i>Marian B. Gorzalczy ; Filip Rudzinski</i>	
TIME SERIES CLASSIFICATION IN CYBER-PHYSICAL SYSTEM APPLICATIONS BY INTERVALS’ NUMBERS TECHNIQUES	217
<i>Vassilis G. Kaburlasos ; Eleni Vrochidou ; Fotios Panagiotopoulos ; Charalampos Aitsidis ; Alexander Jaki</i>	
A (SOFT) ROBUSTNESS FOR POSSIBILISTIC OPTIMIZATION PROBLEMS	223
<i>Adam Kasperski ; Pawel Zielinski</i>	
TUNING FUZZY SPARQL QUERIES IN A FUZZY LOGIC PROGRAMMING ENVIRONMENT	229
<i>Jesús M. Almendros-Jiménez ; Antonio Becerra-Terón ; Ginés Moreno ; José A. Rianza</i>	
MINING GRADUAL ITEMSETS USING SEQUENTIAL PATTERN MINING	236
<i>Saïd Jabbour ; Jerry Lonlac ; Lakhdar Saïs</i>	
CONSTRUCTION INDUSTRY PURSUIT INTEL MODELING INSIGHTS WITH FCM	242
<i>Denise M. Case ; Ty Blackburn ; Chrysostomos Stylios</i>	
FUZZY DEEP STACK OF AUTOENCODERS FOR DEALING WITH DATA UNCERTAINTY	248
<i>Bruno Costa ; Jinesh Jain</i>	
A PROBABILISTIC RELATIONAL DATABASE MODEL WITH FUZZY ATTRIBUTE VALUES	254
<i>Tru Cao ; Hoa Nguyen ; Atsuh Inoue ; Duanning Zhou</i>	
A NEW FUZZY RULE GENERATION SCHEME BASED ON MULTIPLE-SELECTION OF INFLUENCING FACTORS	260
<i>Begum Mutlu ; Ebru A. Sezer</i>	

A CHOQUET FUZZY INTEGRAL VERTICAL BAGGING CLASSIFIER FOR MOBILE TELEMATICS DATA ANALYSIS	266
<i>Mohammad Siami ; Mohsen Naderpour ; Jie Lu</i>	
HUMAN IMAGE COMPLEXITY ANALYSIS USING A FUZZY INFERENCE SYSTEM	272
<i>Luis Madrid-Herrera ; Mario I. Chacon-Murguía ; Daniel A. Posada-Urrutia ; Juan A. Ramirez-Quintana</i>	
IMPROVING DATA PRIVACY USING FUZZY LOGIC AND AUTOENCODER NEURAL NETWORK	278
<i>Sayantica Pattanayak ; Simone A. Ludwig</i>	
CAREGIVER ASSESSMENT USING SMART GAMING TECHNOLOGY: A FEASIBILITY STUDY	284
<i>Garrett Goodman ; Tanvi Banerjee ; William Romine ; Cogan Shimizu ; Jennifer Hughes</i>	
USING HYBRID SYSTEMS IN THE CONSTRUCTION OF EXPERT SYSTEMS IN THE IDENTIFICATION OF COGNITIVE AND MOTOR PROBLEMS IN CHILDREN AND YOUNG PEOPLE	290
<i>Paulo V. C. Souza ; Amanda G. Dos Reis ; Gabriela R.R. Marques ; Augusto J. Guimaraes ; Vinicius J. S. Araujo ; Vanessa S. Araujo ; Thiago S. Rezende ; Lucas O. Batista ; Gabriel A. Da Silva</i>	
EFFECTIVE INSTANCE SELECTION USING THE FUZZY-ROUGH LOWER APPROXIMATION	296
<i>Richard Jensen ; Mehran Amiri ; Neil Mac Parthaláin</i>	
IMPROVING EECLUSTER TO OPTIMIZE THE CARBON FOOTPRINT AND OPERATING COSTS OF HPC CLUSTERS	302
<i>Alberto Cocaña-Fernández ; Emilio San José Guiote ; José Ranilla ; Luciano Sánchez</i>	
STATISTICAL BASED APPROACH FOR UNCERTAINTY ANALYSIS IN LIFE CYCLE ASSESSMENT: A CASE STUDY IN TEXTILE INDUSTRY	308
<i>Kaichen Wang ; Xianyi Zeng ; Ludovic Koehl ; Xuyuan Tao ; Yan Chen</i>	
FUZZY BASED POOLING IN CONVOLUTIONAL NEURAL NETWORK FOR IMAGE CLASSIFICATION	312
<i>Teena Sharma ; Vikas Singh ; Siddharth Sudhakaran ; Nishchal K. Verma</i>	
STATE DETECTION OF SWITCH CABINET BASED ON MULTI-SENSOR INFORMATION FUSION	318
<i>Lijun Lv ; Kai Gao ; Hua Huang ; Gangjie Zhou ; Xinlei Qiao ; Lijun Jin</i>	
TYPES OF RECURSIVE COMPUTABLE AGGREGATIONS	324
<i>Luis Magdalena ; Luis Garmendia ; Daniel Gómez ; Ramón González Del Campo ; J. T. Rodríguez ; Javier Montero</i>	
ON ROBUST SWITCHED CONTROLLER DESIGN TO MINIMIZE THE GUARANTEED COST OF POLYNOMIAL FUZZY SYSTEMS	330
<i>Igor T. M. Ramos ; Uiliam Nelson L. T. Alves ; Marcelo C. M. Teixeira ; Edvaldo Assunção ; Rodrigo Cardim ; Adalberto Z. N. Lazarini</i>	
SOIL EROSION RATE PREDICTION USING ADAPTIVE NEURO-FUZZY INFERENCE SYSTEM (ANFIS) AND GEOGRAPHIC INFORMATION SYSTEM (GIS) OF WADI SAHEL-SOUMMAM WATERSHED (ALGERIA)	336
<i>Messaoud Djeddou ; Ibrahim A. Hameed ; Elhadj Mokhtari</i>	
FEATURE SELECTION FOR CONSTRUCTION ORGANIZATIONAL COMPETENCIES IMPACTING PERFORMANCE	343
<i>Getaneh Gezahegne Tiruneh ; Aminah Robinson Fayek</i>	
APPLICATION OF A FUZZY LOGIC BASED CONTROLLER FOR PEAK LOAD SHAVING IN A TYPICAL HOUSEHOLD	348
<i>Krishna Prasad Sharma ; Nicholas Baine</i>	
USING FUZZY INFERENCE SYSTEM FOR DETECTION THE EDGES OF MUSCULOSKELETAL ULTRASOUND IMAGES	354
<i>Shaima Ibraheem Jabbar ; Charles R. Day ; Edward K. Chadwick</i>	
FUZZY OPTION PRICING USING A NOVEL DATA-DRIVEN FEED FORWARD NEURAL NETWORK VOLATILITY MODEL	361
<i>A. Thavaneswaran ; Ruppa K. Thulasiram ; Julieta Frank ; Zimo Zhu ; Manmohit Singh</i>	
FUZZY DISCRETE EVENT SYSTEMS WITH GRADIENT-BASED ONLINE LEARNING	367
<i>Hao Ying ; Feng Lin ; Robert Sherwin</i>	
CLUSTERING OF INFORMATION GRANULES IN HOTSPOT IDENTIFICATION	373
<i>Yinghua Shen ; Witold Pedrycz ; Ronei Marcos De Moraes ; Xingchen Hu ; Xianmin Wang ; Adam Gacek</i>	
EXPLAINABLE AI FOR DATASET COMPARISON	379
<i>Akshay Jain ; James Keller ; Mihail Popescu</i>	
WHERE THE DOMINATION OF MAXITIVE KERNELS IS EXTENDED TO SIGNED VALUES	386
<i>Olivier Strauss ; Agnès Rico</i>	

A FUZZY GENETIC SYSTEM FOR RESILIENT ROUTING IN UNCERTAIN & DYNAMIC TELECOMMUNICATION NETWORKS.....	392
<i>Lewis Veryard ; Hani Hagrass ; Andrew Starkey ; Gilbert Owusu</i>	
ON COMPARING AND SELECTING APPROACHES TO MODEL INTERVAL-VALUED DATA AS FUZZY SETS.....	398
<i>Josie McCulloch ; Zack Ellerby ; Christian Wagner</i>	
LEARNING CONTROL OF TANDEM-WING TILT-ROTOR UAV WITH UNSTEADY AERODYNAMIC MODEL.....	404
<i>Yunus Govdeli ; Sheikh Moheed Bin Muzaffar ; Raunak Raj ; Basman Elhadidi ; Erdal Kayacan</i>	
MODELING SUPPLY CHAIN QUALITY MANAGEMENT USING MULTI-LAYER FUZZY COGNITIVE MAPS.....	410
<i>Juan Cogollo ; Alexander Correa</i>	
EXTRACTING FUZZY GRADUAL PATTERNS FROM PROPERTY GRAPHS.....	416
<i>Faiz Shah ; Arnaud Castelltort ; Anne Laurent</i>	
DISTANCE MEASURES FOR INTUITIONISTIC FUZZY SETS AND INTERVAL VALUED INTUITIONISTIC FUZZY SETS.....	422
<i>Leila Baccour ; Adel M. Alimi</i>	
ORDERINGS OF EXTENSIONAL FUZZY NUMBERS.....	428
<i>Martin Štepnicka ; Michal Holcapek ; Nicole Škorupová</i>	
A NEW INCREMENTAL CLUSTER VALIDITY INDEX FOR STREAMING CLUSTERING ANALYSIS.....	434
<i>Omar A. Ibrahim ; James M. Keller ; Mihail Popescu</i>	
FEATURE RANKING USING ROBUST FUZZY SCORE FUNCTION FOR GENE EXPRESSION DATA.....	442
<i>Vikas Singh ; Teena Sharma ; Nishchal K Verma ; Yan Cui</i>	
LFL FORECASTER: ANALYSIS, FORECASTING AND MINING INFORMATION FROM TIME SERIES.....	448
<i>Vilém Novák ; Soheyla Mirshahi ; Viktor Pavliska</i>	
ANALYZING THE PERFORMANCE OF DIFFERENT FUZZY MEASURES WITH GENERALIZATIONS OF THE CHOQUET INTEGRAL IN CLASSIFICATION PROBLEMS.....	454
<i>Giancarlo Lucca ; José Antonio Sanz ; Graçaliz P. Dimuro ; Eduardo Nunes Borges ; Helida Santos ; Humberto Bustince</i>	
PROCESSING FUZZY RELATIONAL QUERIES USING FUZZY VIEWS.....	460
<i>Emmanuel Doumard ; Olivier Pivert ; Grégory Smits ; Virginie Thion</i>	
DECSYS – DISCRETE AND ELLIPSE-BASED RESPONSE CAPTURE SYSTEM.....	466
<i>Zack Ellerby ; Josie McCulloch ; John Young ; Christian Wagner</i>	
A NOVEL WEIGHTED COMBINATION METHOD FOR FEATURE SELECTION USING FUZZY SETS.....	472
<i>Zixiao Shen ; Xin Chen ; Jonathan M. Garibaldi</i>	
FUZZY SIMILARITY MEASURES AND MEASUREMENT THEORY.....	478
<i>Giulianella Coletti ; Bernadette Bouchon-Meunier</i>	
ON REPRESENTATION OF SEMINORMED INTEGRAL USING LEVEL DEPENDENT BOOLEAN CAPACITIES.....	485
<i>Jana Borzová ; Lenka Halcinová ; Ondrej Hutník</i>	
FUZZATTENTION ON SESSION-BASED RECOMMENDER SYSTEM.....	491
<i>Chi-Shiang Wang ; Jung-Hsien Chiang</i>	
SWITCHING MOTION CONTROL OF THE CLIMBING ROBOT FOR AIRCRAFT SKIN INSPECTION.....	497
<i>Congqing Wang ; Jiayue Gu ; Zhiyu Li</i>	
DOMAIN SELECTION OF TRANSFER LEARNING IN FUZZY PREDICTION MODELS.....	503
<i>Hua Zuo ; Guangquan Zhang ; Witold Pedrycz ; Jie Lu</i>	
A DEBRIS REMOVAL PLAN FOR EMERGENCY RESPONSE MINIMIZING COST AND TIME UNDER NEUTROSOPHIC ENVIRONMENT.....	509
<i>Deepshikha Sarma ; Amrit Das ; Uttam Kumar Bera</i>	
D-FRI-CISCOFIREWALL: DYNAMIC FUZZY RULE INTERPOLATION FOR CISCO ASA FIREWALL.....	515
<i>Nitin Naik ; Changjing Shang ; Qiang Shen ; Paul Jenkins</i>	
A NOISE-TOLERANT FUZZY C-MEANS BASED DRIFT ADAPTATION METHOD FOR DATA STREAM REGRESSION.....	521
<i>Yiliao Song ; Guangquan Zhang ; Haiyan Lu ; Jie Lu</i>	

SEMI-UNKNOWN ENVIRONMENTS EXPLORATION INSPIRED BY SWARM ROBOTICS USING FUZZY COGNITIVE MAPS.....	527
<i>Márcio Mendonça ; Henrique Seiti Kondo ; Lucas Botoni De Souza ; Rodrigo Henrique C. Palácios ; João Paulo Lima Silva De Almeida</i>	
A NOVEL FUZZY NEURAL NETWORK FOR UNSUPERVISED DOMAIN ADAPTATION IN HETEROGENEOUS SCENARIOS.....	535
<i>Feng Liu ; Guangquan Zhang ; Jie Lu</i>	
HIERARCHICAL ATTENTION-BASED FUZZY NEURAL NETWORK FOR SUBJECT CLASSIFICATION OF POWER CUSTOMER SERVICE WORK ORDERS.....	541
<i>Gangjie Zhou ; Lijun Lv ; Xinlei Qiao ; Lijun Jin</i>	
A COMPARATIVE STUDY ON AIR DATA SYSTEM CALIBRATION METHODS BASED ON MACHINE LEARNING	547
<i>Hansoo Lee ; Jonggeun Kim ; Sungshin Kim ; Jaeyong Kim</i>	
INTUITIONISTIC FUZZY CLUSTERING METHOD WITH SPATIAL INFORMATION FOR MRI IMAGE SEGMENTATION	553
<i>Dhirendra Kumar ; Ramesh Kumar Agrawal ; Jyoti Singh Kirar</i>	
NONLINEAR FUZZY STATE-SPACE MODELING AND LMI FUZZY CONTROL OF OVERHEAD CRANES.....	560
<i>Daniel Leite ; Charles Aguiar ; Daniel Pereira ; Gustavo Souza ; Igor Škrjanc</i>	
MULTIOBJECTIVE OPTIMIZATION OF FULLY AUTONOMOUS EVOLVING FUZZY GRANULAR MODELS	566
<i>Daniel Leite ; Fernando Gomide ; Igor Škrjanc</i>	
FUZZY MULTI-CONSTRAINT PROGRAMMING MODEL FOR WEEKLY MEALS SCHEDULING	573
<i>Mary Tom</i>	
HIGH CONCENTRATIONS NATURALLY LEAD TO FUZZY-TYPE INTERACTIONS AND TO GRAVITATIONAL WAVE BURSTS	579
<i>Oscar Galindo ; Olga Kosheleva ; Vladik Kreinovich</i>	
DO WE STILL NEED FUZZY CLASSIFIERS FOR SMALL DATA IN THE ERA OF BIG DATA?	584
<i>Mikel Elkanó ; Humberto Bustince ; Mikel Galar</i>	
K NEAREST NEIGHBOUR OPTIMAL SELECTION IN FUZZY INDUCTIVE REASONING FOR SMART GRID APPLICATIONS	590
<i>Sergio Jurado ; Ángela Nebot ; Francisco Mugica</i>	
A CLUSTERING ALGORITHM BASED ON FUZZY SETS AND ITS APPLICATION IN LEARNING ANALYTICS	596
<i>Jun Ma ; Jie Yang ; Sarah K. Howard</i>	
A STUDY ON NOT-BORING ODDBALL TASK FOR USERS BY ADOPTING ELEMENTS OF GAMES	602
<i>Tadashi Koike ; Tomohiro Yoshikawa ; Takeshi Furuhashi</i>	
MULTISTEP PREDICTION USING POINT-CLOUD APPROXIMATION OF CONTINUOUS BELIEF FUNCTIONS	606
<i>Thierry Denoëux ; Orakanya Kanjanatarakul</i>	
ON D-IMPLICATIONS DERIVED BY GROUPING FUNCTIONS	612
<i>Graçaliz P. Dimuro ; Helida Santos ; Benjamín Bedregal ; Eduardo Nunes Borges ; Eduardo Palmeira ; Javier Fernandez ; Humberto Bustince</i>	
RELAXED NON-QUADRATIC STABILITY CONDITIONS FOR TAKAGI-SUGENO SYSTEMS WITH TIME-VARYING DELAYS: A WIRTINGER'S INEQUALITIES APPROACH	618
<i>Fayçal Bourahala ; Kevin Guelton ; Adriano N. D. Lopes</i>	
MEASURING SIMILARITY BETWEEN DISCONTINUOUS INTERVALS - CHALLENGES AND SOLUTIONS.....	624
<i>Shaily Kabir ; Christian Wagner ; Timothy C. Havens ; Derek T. Anderson</i>	
STRONG LAW OF LARGE NUMBERS FOR RANDOM VARIABLES VALUED BY GRADUAL NUMBERS AND CLOSED INTERVALS OF GRADUAL NUMBERS	631
<i>Michal Holcapek ; Tomáš Tichý</i>	
USING TAXONOMY TREE TO GENERALIZE A FUZZY THEMATIC CLUSTER.....	637
<i>Dmitry Frolov ; Susana Nascimento ; Trevor Fenner ; Boris Mirkin</i>	
DATA STREAM TRAJECTORY ANALYSIS USING SEQUENTIAL POSSIBILISTIC GAUSSIAN MIXTURE MODEL.....	643
<i>Wenlong Wu ; James M. Keller ; Marjorie Skubic ; Mihail Popescu</i>	
A CONSIDERATION ON INITIAL PARAMETER SETTING USING ONOMATOPOEIAS FOR INTERACTIVE DESIGN TOOLS	650
<i>Yuki Sawamura ; Keima Osuka ; Tsuyoshi Nakamura ; Masayoshi Kanoh ; Koji Yamada</i>	

ALLOCATION OF INFORMATION GRANULARITY: A MULTI-OBJECTIVE EVOLUTIONARY OPTIMIZATION USING CONFLICT INFORMATION	655
<i>Xingchen Hu ; Huangke Chen ; Chao Chen ; Boliang Sun ; Jincai Huang ; Kuihua Huang</i>	
DISTANCES BETWEEN INTERVAL-VALUED FUZZY SETS TAKING INTO ACCOUNT THE WIDTH OF THE INTERVALS	661
<i>Zdenko Takác ; Javier Fernandez ; Javier Fumanal ; Cedric Marco-Detchart ; Inés Couso ; Graçaliz Dimuro ; Héliida Santos ; Humberto Bustince</i>	
ON THE CONCEPT OF MEANINGFULNESS IN CONSTRAINED TYPE-2 FUZZY SETS	667
<i>Pasquale D'Alterio ; Jonathan M. Garibaldi ; Robert John</i>	
FUZZINESS CONTROL OF FUZZIMETRIC SETS	673
<i>Issam Kouatli</i>	
EVIDENTIAL CLUSTERING FOR CATEGORICAL DATA	678
<i>Abdoul Jalil Djiberou Mahamadou ; Violaine Antoine ; Gregory J. Christie ; Sylvain Moreno</i>	
GROUP DECISION MAKING TECHNIQUES FOR RISK ASSESSMENT: A LITERATURE REVIEW AND RESEARCH DIRECTIONS	684
<i>Rafael Ferro Munhoz Arantes ; Luiz Cesar Ribeiro Carpinetti</i>	
ON PSEUDO-HOMOGENEITY OF T-SUBNORMS	690
<i>Lucélia Lima ; Marcus Rocha ; Annaxsuel De Lima ; Benjamin Bedregal ; Humberto Bustince</i>	
TRANSFER LEARNING FOR THE CHOQUET INTEGRAL	696
<i>Bryce Murray ; Muhammad Aminul Islam ; Anthony Pinar ; Derek T. Anderson ; Grant Scott ; Timothy C. Havens ; Fred Petry ; Paul Elmore</i>	
EXPLAINABLE DECISIONS UNDER INCOMPLETE KNOWLEDGE WITH SUPPORTS AND WEIGHTS	702
<i>Florence Dupin De Saint-Cyr ; Romain Guillaume ; Umer Mushtaq</i>	
ON THE NEED OF INTERPRETABILITY FOR BIOMEDICAL APPLICATIONS: USING FUZZY MODELS FOR LUNG CANCER PREDICTION WITH LIQUID BIOPSY	708
<i>Nicolas Potie ; Stavros Giannoukagos ; Michael Hackenberg ; Alberto Fernandez</i>	
GENERALIZED FUZZY PARTITION IN GALERKIN METHOD FOR THE BOUNDARY VALUED PROBLEM	714
<i>Linh Nguyen ; Irina Perfilieva ; Michal Holcapek</i>	
EQUIVALENCE MEASURES FOR ATANASSOV INTUITIONISTIC FUZZY SETTING USED TO ALGORITHM OF IMAGE PROCESSING	720
<i>Barbara Pekala ; Urszula Bentkowska ; Javier Fernandez ; Humberto Bustince</i>	
LEVERAGING IT2 INPUT FUZZY SETS IN NON-SINGLETON FUZZY LOGIC SYSTEMS TO DYNAMICALLY ADAPT TO VARYING UNCERTAINTY LEVELS	726
<i>Direnc Pekaslan ; Christian Wagner ; Jonathan M. Garibaldi</i>	
LINGUISTIC OPTIMIZATION PROBLEMS: SOLUTION METHODOLOGY USING PERCEPTUAL REASONING	733
<i>Prashant K. Gupta ; Pranab K. Muhuri</i>	
FUZZY MODELING OF SURVIVAL ASSOCIATED TO INSULIN THERAPY IN THE ICU	739
<i>Aldo Arévalo ; Bernardo M. Firme ; Susana M. Vieira ; Leo Celi ; Stan N. Finkelstein ; João M. C. Sousa</i>	
A COHESION MEASURE FOR IMPROVING THE WEIGHTING OF EXPERTS' SUBGROUPS IN LARGE-SCALE GROUP DECISION MAKING CLUSTERING METHODS	745
<i>Álvaro Labella ; Rosa M. Rodríguez ; Guy De Tré ; Luis Martínez</i>	
SENFIS - SELECTED ENSEMBLE OF FUZZY INFERENCE SYSTEMS	751
<i>Errison Alves ; Ricardo Tanscheit ; Marley Vellasco</i>	
OPTIMIZING THE PERFORMANCE OF RULE-BASED FUZZY ROUTING ALGORITHMS IN WIRELESS SENSOR NETWORKS	757
<i>Seyyit Alper Sert ; Adnan Yazici</i>	
ALLOCATING VIRTUAL MACHINES EXPLORING TYPE-2 FUZZY LOGIC AND ADMISSIBLE ORDERS	763
<i>Bruno M. P. Moura ; Guilherme B. Schneider ; Adenauer C. Yamin ; Mauricio L. Pilla ; Renata H. S. Reiser</i>	
COMPARISON BETWEEN COMPOSITE INDEX SOLUTION SURFACES WITH FUZZY COMPOSITE INDEX DECISION SURFACES	769
<i>J. Rubén G. Cárdenas ; Ángela Nebot ; Francisco Mugica</i>	
ROTATIONAL INVERTED PENDULUM CONTROLLER DESIGN USING INDIRECT ADAPTIVE FUZZY MODEL PREDICTIVE CONTROL	775
<i>Roja Eini ; Sherif Abdelwahed</i>	
EXPLORING TYPE-2 FUZZY LOGIC WITH DYNAMIC RULES IN IOT RESOURCES CLASSIFICATION	781
<i>Amanda Argou ; Renato Dilli ; Renata Reiser ; Adenauer Yamin</i>	

LINEAR ORDER STATISTIC NEURON	787
<i>Charlie Veal ; Alex Yang ; Alex Hurt ; Muhammad Aminul Islam ; Derek T. Anderson ; Grant Scott ; James M Keller ; Timothy C. Havens ; Bo Tang</i>	
ONTOLOGICAL AND FUZZY SET SIMILARITY BETWEEN PERCEPTION-BASED WORDS	793
<i>Valerie Cross ; Valeria Morenko ; Keeley Crockett ; Naeemeh Adel</i>	
DEVELOPMENT OF GUIDE ROBOT THAT LEADS AND CONSIDERS FOLLOWING USER	799
<i>Toshiya Arakawa ; Naoyuki Kuboa</i>	
COMPUTING WITH WORDS FOR MULTI-OBJECTIVE LINGUISTIC OPTIMIZATION PROBLEMS	803
<i>Prashant K. Gupta ; Rahul Nath ; Pranab K. Muhuri</i>	
ON THE APPLICATION OF PREAGGREGATION FUNCTIONS TO FUZZY PATTERN TREE	808
<i>Pan Su ; Tianhua Chen ; Haoyu Mao ; Jianyang Xie ; Yitian Zhao ; Jiang Liu</i>	
A LINGUISTIC DECISION MAKING MODEL FOR PSYCHOMETRIC TESTS	814
<i>Taniya Seth ; Prashant K Gupta ; Pranab K. Muhuri</i>	
A STATISTICAL RANDOM VARIABLE APPROACH TO FUZZY COGNITIVE MAP MODELING	820
<i>Vesa A. Niskanen</i>	
A SOFTWARE IMPLEMENTATION OF THE FUZZY RULE LEARNING ALGORITHM NSLVORD FOR ORDINAL CLASSIFICATION INTO KEEL	826
<i>Juan Carlos Gámez-Granados ; Jose Manuel Soto-Hidalgo ; Giovanni Acampora ; Antonio González ; Raúl Pérez</i>	
INCREMENTAL CAUCHY NON-NEGATIVE MATRIX FACTORIZATION AND FUZZY RULE-BASED CLASSIFIER FOR ACOUSTIC SOURCE SEPARATION	832
<i>Achyut Mani Tripathi ; Rashmi Dutta Baruah</i>	
CHARTING PERCEPTUAL SPACES WITH FUZZY RULES	838
<i>Iván Paz ; Ángela Nebot ; Enrique Romero ; Francisco Mugica</i>	
A FUZZY DENSITY-BASED CLUSTERING ALGORITHM FOR STREAMING DATA	844
<i>Andrea Aliperti ; Alessio Bechini ; Francesco Marcelloni ; Alessandro Renda</i>	
CONTROL SYNTHESIS FOR FUZZY SYSTEMS WITH LOCAL NONLINEAR MODELS SUBJECT TO ACTUATOR SATURATION	850
<i>Anh-Tu Nguyen ; Pedro Coutinho ; Thierry-Marie Guerra ; Reinaldo Palhares</i>	
INTERVAL EXTENSION OF THE GENERALIZED ATANASSOV'S INTUITIONISTIC FUZZY INDEX USING ADMISSIBLE ORDERS	856
<i>Lidiane Costa ; Mônica Matzenauer ; Adenauer Yamin ; Renata Reiser ; Benjamin Bedregal</i>	
CONTENT AND CONCEPT INDEXING FOR HIGH-DIMENSIONAL MULTIMEDIA DATA	862
<i>Serdar Arslan ; Adnan Yazıcı</i>	
ROBUST EVOLVING NEURO-FUZZY CONTROL OF A NOVEL TILT-ROTOR VERTICAL TAKEOFF AND LANDING AIRCRAFT	868
<i>Harikumar Kandath ; Mohamad Abdul Hady ; Mahardhika Pratama ; Ng Bing Feng</i>	
REFERRING UNDER UNCERTAINTY	874
<i>Nicolás Marín ; Gustavo Rivas-Gervilla ; Daniel Sánchez</i>	
HUMAN HEDGE PERCEPTION – AND ITS APPLICATION IN FUZZY SEMANTIC SIMILARITY MEASURES	880
<i>Naeemeh Adel ; Keeley Crockett ; Alan Crispin ; Joao P. Carvalho ; David Chandran</i>	
A MEASURE OF STRUCTURAL COMPLEXITY OF HIERARCHICAL FUZZY SYSTEMS ADAPTED FROM SOFTWARE ENGINEERING	887
<i>Tajul Rosli Razak ; Jonathan M. Garibaldi ; Christian Wagner</i>	
A STUDY ON THE INTERPRETABILITY OF A FUZZY SYSTEM TO CONTROL AN INVERTED PENDULUM	894
<i>Bahadır Zeren ; Muhammet Deveci ; Simon Coupland ; Robert John ; Ender Özcan</i>	
AN INTELLIGENT AND PRIVATE METHOD TO PROFILE SOCIAL NETWORK USERS	900
<i>Carlo Blundo ; Carmen De Maio ; Mimmo Parente ; Luisa Siniscalchi</i>	
A SWARM INTELLIGENCE APPROACH TO AVOID LOCAL OPTIMA IN FUZZY C-MEANS CLUSTERING	906
<i>Caro Fuchs ; Simone Spolaor ; Marco S. Nobile ; Uzay Kaymak</i>	
DEPICTING DECISION-MAKING: A TYPE-2 FUZZY LOGIC BASED EXPLAINABLE ARTIFICIAL INTELLIGENCE SYSTEM FOR GOAL-DRIVEN SIMULATION IN THE WORKFORCE ALLOCATION DOMAIN	912
<i>Emmanuel Ferreyra ; Hani Hagrass ; Mathias Kern ; Gilbert Owusu</i>	
REDPAC: A SIMPLE EVOLVING NEURO-FUZZY-BASED INTELLIGENT CONTROL FRAMEWORK FOR QUADCOPTER	918
<i>Md Meftahul Ferdous ; Mohamad Abdul Hady ; Mahardhika Pratama ; Harikumar Kandath ; Sreenatha G. Anavatti</i>	

OWA OPERATORS BASED ON ADMISSIBLE PERMUTATIONS	925
<i>Daniel Paternain ; Lesheng Jin ; Radko Mesiar ; Lucia Vavriková ; Humberto Bustince</i>	
HYBRID MODEL OF INTERVAL TYPE-2 NEURAL FUZZY INFERENCE SYSTEM AND MUTUAL SUBSETHOOD WITH APPLICATIONS	930
<i>Vuppuluri Sumati ; C. Patvardhan ; Sandeep Paul ; Lotika Singh ; V. Mehar Swarup</i>	
FUZZY OCTONION NUMBERS AND FUZZY HYPERCOMPLEX NUMBERS	936
<i>Ricardo Augusto Watanabe ; Estevão Esmi Laureano ; Cibele Cristina Trinca Watanabe</i>	
MANAGING THE DOUBT IN FUZZY CLUSTERING BY MEANS OF INTERVAL-VALUED FUZZY SETS	942
<i>Aranzazu Jurio ; Humberto Bustince ; Vicenc Torra</i>	
GENERALIZED INTERMEDIATE SYLLOGISMS WITH MORE PREMISES	948
<i>Petra Murinová</i>	
FUZZY INTEGRAL DRIVEN ENSEMBLE CLASSIFICATION USING A PRIORI FUZZY MEASURES	954
<i>Utkarsh Agrawal ; Christian Wagner ; Jonathan M. Garibaldi ; Daniele Soria</i>	
HOW TO MERGE OPINIONS BY USING OPERATIONS BETWEEN SEQUENCES OF ORTHOPAIRS	961
<i>Stefania Boffa ; Brunella Gerla</i>	
HUMAN INTENTION ESTIMATION USING FUZZY INFERENCE BASED ON GAZE TRACKING AND SALIENCY MAP	967
<i>Yoichiro Maeda ; Jiaao Niu</i>	
FUZZY ADAPTIVE DYNAMIC PROGRAMMING MINIMUM ENERGY CONTROL OF DIELECTRIC ELASTOMER ACTUATORS	973
<i>Paolo Roberto Massenio ; Gianluca Rizzello ; David Naso</i>	
INCORPORATING RANKING RULES INTO K NEAREST NEIGHBOURS	979
<i>Noelia Rico ; Raúl Pérez-Fernández ; Irene Díaz</i>	
A GRADED APPROACH TO REQUIREMENT SATISFACTION FOR EVOLVING SYSTEMS	985
<i>Trevor P Martin ; Ratih N. E. Anggraini</i>	
FRELS: FAST AND RELIABLE ESTIMATED LINGUISTIC SUMMARIES	991
<i>Grégory Smits ; Pierre Nerzic ; Marie-Jeanne Lesot ; Olivier Pivert</i>	
CYBERTHREAT HUNTING - PART 1: TRIAGING RANSOMWARE USING FUZZY HASHING, IMPORT HASHING AND YARA RULES	997
<i>Nitin Naik ; Paul Jenkins ; Nick Savage ; Longzhi Yang</i>	
CYBERTHREAT HUNTING - PART 2: TRACKING RANSOMWARE THREAT ACTORS USING FUZZY HASHING AND FUZZY C-MEANS CLUSTERING	1003
<i>Nitin Naik ; Paul Jenkins ; Nick Savage ; Longzhi Yang</i>	
LEAFAGE: EXAMPLE-BASED AND FEATURE IMPORTANCE-BASED EXPLANATIONS FOR BLACK-BOX ML MODELS	1009
<i>Ajaya Adhikari ; David M. J. Tax ; Riccardo Satta ; Matthias Faeth</i>	
MODELING AND CONTROL OF NONLINEAR SYSTEMS USING AN INTERACTIVE SOFTWARE: A T-S FUZZY APPROACH	1016
<i>Michael Klug ; Luis F. P. Silva</i>	
2GATHER4HEALTH: AUTOMATIC WEB IDENTIFICATION OF SOLUTIONS IN PATIENT INNOVATION	1022
<i>João N. Almeida ; Joao P. Carvalho ; Salomé Azevedo</i>	
FUZZY HOT SPOT IDENTIFICATION FOR BIG DATA: AN INITIAL APPROACH	1028
<i>Rebecca Tickle ; Isaac Triguero ; Graziela P. Figueredo ; Ender Özcan ; Mohammad Mesgarpour ; Robert I. John</i>	
CONSENSUS BUILDING IN GROUP DECISION-MAKING FOR THE RISK ASSESSMENT OF WIND FARM PROJECTS	1034
<i>Yajie Hao ; Nebiyu Siraj Kediri ; Nima Gerami Seresht ; Witold Pedrycz ; Aminah Robinson Fayek</i>	
A FUNCTIONAL EQUATION STEMMING FROM A CHARACTERIZATION OF POWER-BASED IMPLICATIONS	1041
<i>Michal Baczynski ; Włodzimierz Fechner ; Sebastia Massanet</i>	
DISTANCE MEASURES BETWEEN INTERVAL VALUED INTUITIONISTIC FUZZY SETS AND APPLICATION IN MULTI-CRITERIA DECISION MAKING	1047
<i>Belahssan Fares ; Leila Baccour ; Adel M. Alimi</i>	
EVIDENTIAL REASONING WITH LINGUISTIC BELIEF STRUCTURES	1053
<i>Huchang Liao ; Ran Fang ; Jian-Bo Yang ; Dong-Ling Xu</i>	
A COMPLEXITY ANALYSIS OF MPE INFERENCE IN POSSIBILISTIC NETWORKS	1058
<i>Salem Benferhat ; Karim Tabia ; Amélie Levray</i>	

PARAFIS:A NEW ONLINE FUZZY INFERENCE SYSTEM BASED ON PARALLEL DRIFT ANTICIPATION	1064
<i>Clement Leroy ; Eric Anquetil ; Nathalie Girard</i>	
NATURAL LANGUAGE GENERATION OF EXPLANATIONS OF FUZZY INFERENCE DECISIONS	1070
<i>Ismail Baaj ; Jean-Philippe Poli</i>	
POLE DETERMINATION FOR TAKAGI-SUGENO FUZZY LAGUERRE MODELS	1076
<i>Tim Oliver Heinz ; Tobias Ebert ; Oliver Nelles</i>	
INTERVAL-VALUED PRE-AGGREGATION FUNCTIONS: A STUDY OF DIRECTIONAL MONOTONICITY OF INTERVAL-VALUED FUNCTIONS.....	1082
<i>Mikel Sesma-Sara ; Laura De Miguel ; Radko Mesiar ; Javier Fernandez ; Humberto Bustince</i>	
FUZZY ROUGH SET FEATURE SELECTION TO ENHANCE PHISHING ATTACK DETECTION	1088
<i>Mahdieh Zabihimayvan ; Derek Doran</i>	
IMPROVED DEEP FUZZY CLUSTERING FOR ACCURATE AND INTERPRETABLE CLASSIFIERS	1094
<i>Mojtaba Yeganejou ; Scott Dick</i>	
OBSERVER-BASED CONTROLLER DESIGN FOR TAKAGI-SUGENO FUZZY SYSTEMS WITH LOCAL NONLINEARITIES	1101
<i>Zoltán Nagy ; Zsófia Lendek</i>	
ON GENERALIZED INTUITIONISTIC FUZZY INTERACTION PARTITIONED BONFERRONI MEAN OPERATORS	1107
<i>Rajkumar Verma ; José M. Merigó</i>	
EXPLAINING WHAT A NEURAL NETWORK HAS LEARNED: TOWARD TRANSPARENT CLASSIFICATION.....	1113
<i>Kasun Amarasinghe ; Milos Manic</i>	
A PRELIMINARY APPROACH FOR THE EXPLOITATION OF CITIZEN SCIENCE DATA FOR FAST AND ROBUST FUZZY K-NEAREST NEIGHBOUR CLASSIFICATION	1119
<i>Manuel Jiménez ; Mercedes Torres Torres ; Robert John ; Isaac Triguero</i>	
A SYSTEMATIC APPROACH TO CREATING FUZZY REGION OBJECTS FROM REAL SPATIAL DATA SETS.....	1125
<i>Anderson Chaves Carniel ; Markus Schneider</i>	
COMPOUND BIPOLAR QUERIES: THE CASE OF DATA WITH A VARIABLE QUALITY	1131
<i>Janusz Kacprzyk ; Slawomir Zadrozny</i>	
INTRODUCING FUZZY LAYERS FOR DEEP LEARNING	1137
<i>Stanton R. Price ; Steven R. Price ; Derek T. Anderson</i>	
PERSONALIZED QUERIES UNDER A GENERALIZED USER PROFILE MODEL BASED ON FUZZY SPARQL PREFERENCES.....	1143
<i>Olfa Slama</i>	
DENDRITIC CELL ALGORITHM ENHANCEMENT USING FUZZY INFERENCE SYSTEM FOR NETWORK INTRUSION DETECTION	1149
<i>Noe Elisa ; Longzhi Yang ; Xin Fu ; Nitin Naik</i>	
CREDIT SCORING MODELING OF INDONESIAN MICRO, SMALL AND MEDIUM ENTERPRISES USING NEURO-FUZZY ALGORITHM.....	1155
<i>Felix Pasila</i>	
LEARNING ANALYTICS TO IMPROVE CODING ABILITIES: A FUZZY-BASED PROCESS MINING APPROACH.....	1161
<i>Pasquale Ardimento ; Mario Luca Bernardi ; Marta Cimitile ; Giuseppe De Ruvo</i>	
MODELING OF FUZZY RULE-BASE ALGORITHM FOR THE TIME DEPENDENT TRAVELING SALESMAN PROBLEM.....	1168
<i>Laszlo T. Koczy ; Peter Foldesi ; Boldizsar Tuu-Szabo ; Ruba Almahasneh</i>	
SEPSIS PREDICTION: AN ATTENTION-BASED INTERPRETABLE APPROACH	1174
<i>Kourosh T. Baghaei ; Shahram Rahimi</i>	
ADAPTIVE ACTIVATION FUNCTION GENERATION FOR ARTIFICIAL NEURAL NETWORKS THROUGH FUZZY INFERENCE WITH APPLICATION IN GROOMING TEXT CATEGORISATION	1180
<i>Zheming Zuo ; Jie Li ; Bo Wei ; Longzhi Yang ; Fei Chao ; Nitin Naik</i>	
QUANTIFICATION AND VISUALIZATION FOR DIFFERENCE OF FUZZY CLUSTERING RESULTS.....	1186
<i>Mika Sato-Ilic</i>	

MODEL-BASED FUZZY CONTROL OF RENEWABLE ENERGY POWER PLANTS: A HOLISTIC APPROACH	1192
<i>Horst Schulte ; Florian Pöschke ; Zeineb Rania Labidi</i>	
A NEW ALGORITHM FOR DESIGNING Θ-FUZZY ASSOCIATIVE MEMORIES BASED ON SUBSETHOOD MEASURES	1198
<i>Peter Sussner ; Estevão Esmi ; João Florindo</i>	
VISUALJFML: A VISUAL ENVIRONMENT FOR DESIGNING FUZZY SYSTEMS ACCORDING TO IEEE STD 1855-2016	1204
<i>Giovanni Acampora ; Jesus Alcalá-Fdez ; Roberta Siciliano ; José M. Soto-Hidalgo ; Autilia Vitiello</i>	
MACHINE LEARNING OF CHOQUET INTEGRAL REGRESSION WITH RESPECT TO A BOUNDED CAPACITY (OR NON-MONOTONIC FUZZY MEASURE)	1210
<i>Timothy C. Havens ; Derek T. Anderson</i>	
THE NATURAL TRANSFORMATIONS WITH FUZZIFIED COMMUTATIVITY	1216
<i>Krzysztof Adam Jobczyk ; Patryk Gałczyński</i>	
PROPOSAL AND ANALYSIS OF DRIVER SUPPORT SYSTEM TO VERIFY DRIVER'S OVERCONFIDENCE AND DEPENDENCE BIAS	1222
<i>Junya Matsukawa ; Tomoki Miyamoto ; Daisuke Katagami ; Takahiro Tanaka ; Hitoshi Kanamori ; Yuki Yoshihara ; Kazuhiro Fujikake</i>	
MEASURING INTER-GROUP AGREEMENT ON ZSLICE BASED GENERAL TYPE-2 FUZZY SETS	1228
<i>Javier Navarro ; Christian Wagner</i>	
AN EPISTEMIC SIMPLIFIED INTERVAL TEMPORAL LOGIC OF MOSZKOWSKI FOR FUZZIFIED JUSTIFICATION	1235
<i>Krzysztof Adam Jobczyk ; Antoni Ligeza</i>	
FUZZY PRUNING FOR COMPRESSION OF CONVOLUTIONAL NEURAL NETWORKS	1243
<i>Wei Bin Zhao ; Yue Li ; Lin Shang</i>	
OPTIMIZATION OF FUZZY CONTROLLERS FOR AUTONOMOUS MOBILE ROBOTS USING THE GREY WOLF OPTIMIZER	1248
<i>Eufronio Hernandez ; Oscar Castillo ; Jose Soria</i>	
OWA-BASED SUMMARIZATION OF DATA USING IPAD-DRAWN CONCEPTS	1253
<i>D. Nhuan ; Marek Z. Reformat ; Ronald R. Yager</i>	
A FUZZY LOGIC BASED MACHINE LEARNING TOOL FOR SUPPORTING BIG DATA BUSINESS ANALYTICS IN COMPLEX ARTIFICIAL INTELLIGENCE ENVIRONMENTS	1259
<i>Seokjin Ahn ; Stéfan V. Couture ; Alfredo Cuzzocrea ; Kevin Dam ; Giorgio M. Grasso ; Carson K. Leung ; Kaleigh L. McCormick ; Bryan H. Wodi</i>	
FUZZY LOGIC BASED PRICING COMBINED WITH ADAPTIVE SEARCH FOR RESERVE PRICE OPTIMIZATION IN ONLINE AD AUCTIONS	1265
<i>Jason Rhuggenaath ; Alp Akcay ; Yingqian Zhang ; Uzay Kaymak</i>	
RELEVANCE OF POLYNOMIAL ORDER IN TAKAGI-SUGENO FUZZY INFERENCE SYSTEMS APPLIED IN DIAGNOSIS PROBLEMS	1273
<i>Emanuel Ontiveros-Robles ; Patricia Melin ; Oscar Castillo</i>	
ONTOLOGY-BASED REPRESENTATION AND REASONING ABOUT PRECISE AND IMPRECISE TIME INTERVALS	1279
<i>Fatma Ghorbel ; Fayçal Hamdi ; Elisabeth Metais</i>	
PEOPLE DETECTION IN DOWNWARD-VIEWING FISHEYE CAMERA NETWORKS USING FUZZY INTEGRAL	1287
<i>Tsaipei Wang ; Chih-Hao Liao</i>	
CONTROLLABLE FUZZINESS OF GENERAL FUZZY NUMBERS ADDITION BASED ON YAGER T-NORMS	1292
<i>Kuo-Ping Chiao</i>	
CARDIOVASCULAR CONDITIONS CLASSIFICATION USING ADAPTIVE NEURO-FUZZY INFERENCE SYSTEM	1297
<i>Jason Rivera ; Kelsey Rodriguez ; Xiao-Hua Yu</i>	
A FUZZY LINEARITY-BASED APPROACH FOR CONTOUR SALIENCE POINTS SELECTION	1303
<i>J. Chamorro-Martínez ; A. Torres-Aguilera ; A. Garrido ; P. M. Martínez-Jiménez</i>	
EVALUATING PATH COSTS IN MULTI-ATTRIBUTED FUZZY WEIGHTED GRAPHS	1309
<i>Andrew R. Buck ; James M. Keller</i>	
A STUDY ON SOLVING THE INVERSE KINEMATICS OF SERIAL ROBOTS USING ARTIFICIAL NEURAL NETWORK AND FUZZY NEURAL NETWORK	1315
<i>Jacket Demby'S ; Yixiang Gao ; G. N. Desouza</i>	

TOWARDS AN ADAPTIVE CONTROL STRATEGY BASED ON TYPE-2 FUZZY LOGIC FOR AUTONOMOUS MOBILE ROBOTS	1321
<i>Felizardo Cuevas ; Oscar Castillo ; Prometeo Cortes-Antonio</i>	
THE MODE OF INTERVAL-VALUED DATA	1327
<i>Tim Wilkin ; Gleb Beliakov</i>	
TRANSFER LEARNING BASED GDP PREDICTION FROM UNCERTAIN CARBON EMISSION DATA	1333
<i>Sandeep Kumar ; Amit K. Shukla ; Pranab K. Muhuri ; Q. M. Danish Lohani</i>	
A REAL-TIME FUZZY LEARNING ALGORITHM FOR MARKOV CHAIN AND ITS APPLICATION ON PREDICTION OF VEHICLE SPEED*	1339
<i>Qingyu Zhang ; Dimitar Filev ; Steven Szwabowski ; Reza Langari</i>	
EXPLOITING RELEVANT CONTEXT WITH SOFT-ROUGH SETS IN CONTEXT-AWARE VIDEO RECOMMENDER SYSTEMS	1345
<i>Syed Manzar Abbas ; Khubaib Amjad Alam</i>	
AN ARCHITECTURE BASED ON FUZZY SYSTEMS FOR PERSONALIZED MEDICINE IN ICUS	1351
<i>João M. C. Sousa ; Susana M. Vieira ; João P. Carvalho ; Sara C. Madeira ; Leo Celi ; Stan N. Finkelstein</i>	
INTERVAL TYPE-2 FUZZY RESTRICTED BOLTZMANN MACHINE FOR THE ENHANCEMENT OF DEEP LEARNING	1357
<i>Manvendra Janmajaya ; Amit K. Shukla ; Taniya Seth ; Pranab K. Muhuri</i>	
FUZZY INITIAL VALUE PROBLEMS FOR FUZZY HYPOCYCLOID CURVES	1363
<i>Daniel Eduardo Sánchez ; Vinícius Francisco Wasques ; Estevão Esmi ; Laécio Carvalho De Barros ; Peter Sussner</i>	
INTERVAL TYPE-2 FUZZY LOGIC FOR DYNAMIC PARAMETER ADJUSTMENT IN THE IMPERIALIST COMPETITIVE ALGORITHM	1368
<i>Emer Bernal ; Oscar Castillo ; Jose Soria ; Fevrier Valdez</i>	
A NOVEL NON-ITERATIVE PARAMETER ESTIMATION METHOD FOR INTERVAL TYPE-2 FUZZY NEURAL NETWORKS BASED ON A DYNAMIC COST FUNCTION	1373
<i>Mojtaba Ahmadiéh Khanesar ; Saima Hassan ; Erik Cambria ; Erdal Kayacan</i>	
AN INTELLIGENT ONLINE GROOMING DETECTION SYSTEM USING AI TECHNOLOGIES	1379
<i>Philip Anderson ; Zheming Zuo ; Longzhi Yang ; Yanpeng Qu</i>	
A POSSIBILISTIC COUNTERPART TO SHAFER EVIDENCE THEORY	1385
<i>Didier Dubois ; Francis Faux ; Henri Prade ; Agnès Rico</i>	
COMPATIBILITY-BASED EVIDENTIAL REASONING	1391
<i>Mohammad Reza Rajati</i>	
AN APPROACH FOR OPTIMIZATION OF INTUITIONISTIC AND TYPE-2 FUZZY SYSTEMS IN PATTERN RECOGNITION APPLICATIONS	1397
<i>Oscar Castillo ; Patricia Melin</i>	
Author Index	