

Contents

Machine Learning and Applications

Model Evaluation as Approach to Predict a Diagnosis	3
Adriana Mihaela Coroiu	
The Basics of Implementing Intelligent Social Networks	17
Stefan Cosmin Popa, Marius Constantin Popescu, and Antoanela Naaji	
The Generation of Tests of Knowledge Check Using Genetic Algorithms	28
Doru Anastasiu Popescu, Nicolae Bold, and Alexandru Ion Popescu	
Matrix-Valued Bidirectional Associative Memories	36
Călin-Adrian Popa	
Enhanced Gradient Descent Algorithms for Quaternion-Valued Neural Networks	45
Călin-Adrian Popa	
A Reinforcement Learning Based Approach to Multiple Sequence Alignment	54
Ioan-Gabriel Mircea, Iuliana Bocicor, and Gabriela Czibula	
Supervised Learning Techniques for Body Mass Estimation in Bioarchaeology	71
Vlad-Sebastian Ionescu, Gabriela Czibula, and Mihai Teletin	
A Fuzzy Approach of Sensitivity for Multiple Colonies on Ant Colony Optimization	87
Camelia-M. Pinte, Oliviu Matei, Rabie A. Ramadan, Mario Pavone, Muaz Niazi, and Ahmad Taher Azar	

Nature Inspired Partitioning Clustering Algorithms: A Review and Analysis	96
Behzad Saemi, Ali Asghar Rahmani Hosseinabadi, Maryam Kardgar, Valentina Emilia Balas, and Hamed Ebadi	
Parametric Prediction Model Using Expert System and Fuzzy Harmonic System	117
W. Bel, D. López De Luise, A. Asmis, and D. Mansilla	
Predicting Ozone Layer Concentration Using Multivariate Adaptive Regression Splines, Random Forest and Classification and Regression Tree	140
Sanjiban Sekhar Roy, Chitransh Pratyush, and Cornel Barna	
Prediction of Customer Satisfaction Using Naive Bayes, MultiClass Classifier, K-Star and IBK	153
Sanjiban Sekhar Roy, Deeksha Kaul, Reetika Roy, Cornel Barna, Suhasini Mehta, and Anusha Misra	
Spam Email Detection Using Deep Support Vector Machine, Support Vector Machine and Artificial Neural Network	162
Sanjiban Sekhar Roy, Abhishek Sinha, Reetika Roy, Cornel Barna, and Pijush Samui	
Business Process Management	
Collaborative Business Process Solution Considering an Ontological Dimension of Process Models	177
Maria Laura Sebu and Horia Ciocarlie	
Logistics Scenario for Wind Turbine Assembly Based on ERP	194
Gabriela Prostean, Cristian Vasar, and Andra Badea	
Relieving Supply Chain Through Collaboration for Wind Turbine Assembly Based on AHP and DBR	201
Andra Badea, Gabriela Prostean, and Cristian Vasar	
New Learning and New Teaching in Higher Education. Formal vs. Informal Learning	218
Camelia Ciuclea, Gabriela Prostean, and Diana Andone	
Integrating E-learning Platforms in Teaching/Learning. A Critical Review Upon the Virtual Campus Usage in UPT	225
Camelia Ciuclea, Gabriela Prostean, Diana Andone, and Anca Draghici	
Application of the Fuzzy-Pay-Off Method in the Valuation of a Financial Instrument	235
Mihaela Crăciun and Luiuella Magdalena Csorba	

Fuzzy Applications, Theory and Fuzzy and Control

Fuzzy Logic Control Strategy for a Three-Phase Electric Arc Furnace	253
Loredana Ghiormez, Octavian Prostean, Ioan Filip, and Manuela Panoiu	
On Fuzzy Estimation of Channel Noise Characteristics in MIMO Communication Systems	265
V. Nicolau and M. Andrei	
Fuzzy-Expert System for Investments in Winemaking	278
Marius M. Balas, Emanuela V. Muller, and Ramona Lile	
Closed Loop Blood Glucose Regulation of Type 1 Diabetic Patient Using Takagi-Sugeno Fuzzy Logic Control	286
Anirudh Nath, Rajeeb Dey, and Valentina E. Balas	
Experimental Implementation of Fuzzy Vision-Based Tracking Control of Quad-Rotor	297
Hemjyoti Das, Aniket Samrat Mazumdar, Rajeeb Dey, and Lintu Roy	
Fuzzy Fractional Derivative: A New Definition	314
Marzieh Najariyan, Mehran Mazandarani, and Valentina Emilia Balas	
Solving First Order Linear Fuzzy Differential Equations System	330
Marzieh Najariyan, Mehran Mazandarani, and Valentina Emilia Balas	
An LMI Based Integral SMC for Tracking Control of a New 4-D Conservative Chaotic System	354
Jay Prakash Singh, Rajeeb Dey, and Binoy Krishna Roy	
Tracking Control with Vibration Suppression of a Two-link Flexible Manipulator using Singular Perturbation with Composite Control Design	365
Kshetrimayum Lochan, Rajeeb Dey, Binoy Krishna Roy, and Bidyadhar Subudhi	
Computational Intelligence in Education	
Distributive Fairness in Educational Assessment	381
Paul Hubert Vossen	
E-Learning Web Based Grid by Utilising P2P Technology in Presentation Broadcasting	395
Rafid Al-Khannak	

Soft Computing and Fuzzy Logic in Biometrics (SCFLB)

A Circular Eccentric Iris Segmentation Procedure for *LG2200*

Eye Images 411
Cristina-Madalina Noaica

Iris Segmentation in the Last Decade – A Survey 426
C.M. Noaica, P.S. Penariu, and V.C. Stroescu

**Circular Fuzzy Iris Segmentation Using Isolines, Sine Law
and Lookup Tables** 445
N. Popescu Bodorin, V.E. Balas, and P.S. Penariu

**A Parallel Approach on Airport Runways Detection
Using MPI and CImg** 460
P.S. Penariu, N. Popescu Bodorin, and V.C. Stroescu

**Identifying Down Syndrome Cases by Combined Use of Face
Recognition Methods** 472
Vlad Dima, Anca Ignat, and Cristina Rusu

Iris Recognition Using Color and Texture Features 483
Ioan Păvăloi and Anca Ignat

Retinal Vessel Classification Technique 498
Florin Rotaru, Silviu-Ioan Bejinariu, Cristina Diana Niță, Ramona Luca,
Mihaela Luca, and Adrian Ciobanu

Soft Computing Algorithms Applied in Economy, Industry and Communication Technology

**Reliable Metrics for Image LSB Steganography
on Mobile Platforms** 517
Dominic Bucerzan and Crina Rațiu

**Information System Security in the Context of Administrative
Cooperation Through Internal Market Information
System in Romania** 529
Camelia Daciana Stoian and Dominic Bucerzan

**An Application of the Multi Period Decision Trees in the Sustainable
Medical Waste Investments** 540
Luiela Magdalena Csorba and Mihaela Crăciun

Containerizing Solution for a Highly Distributed Systems 557
Vlad Iovanov, Mihai Buzgau, and Dominic Bucerzan

Data Acquisition and Processing with Fusion Sensors, Used in Algorithms for Increasing Accuracy of Position Measurement of Mobile Robots.	565
Sandru Florin, Nanu Sorin, Negrea Romeo, Popescu Anca, and Ferice! Sergiu	
Modelling and Applications in Textiles	
Specialized Software for Tracking and Management Machinery Used in Textile Industry.	581
Pavel Farcaș, Ciprian Pop-Moldovan, and Marius Constantin Popescu	
Treatment Optimization for Bioscouring in Ultrasound of Cotton/Cottonised Hemp Blended Fabrics	595
Pustianu Monica, Dochia Mihaela, Sîrghie Cecilia, Gavrilaș Simona, and Tomescu Daniel	
Fuzzy Method Applied on the Control of Textiles Biotechnologies	605
Bălaș Marius, Sîrghie Cecilia, Pustianu Monica, Dochia Mihaela, Gavrilaș Simona, and Tomescu Daniel	
Author Index.	613

Soft Computing Applications

Proceedings of the 7th International Workshop Soft
Computing Applications (SOFA 2016), Volume 2

Balas, V.E.; Jain, L.C.; Balas, M.M. (Eds.)

2018, XXXI, 614 p. 321 illus., Softcover

ISBN: 978-3-319-62523-2