

2018 7th Brazilian Conference on Intelligent Systems (BRACIS 2018)

**Sao Paulo, Brazil
22-25 October 2018**



**IEEE Catalog Number: CFP18BAA-POD
ISBN: 978-1-5386-8024-7**

**Copyright © 2018 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:	CFP18BAA-POD
ISBN (Print-On-Demand):	978-1-5386-8024-7
ISBN (Online):	978-1-5386-8023-0

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

2018 7th Brazilian Conference on Intelligent Systems **BRACIS 2018**

Table of Contents

Preface .xvi.....	
Organizing Committee .xvii.....	
Program Committee .xviii.....	
Additional Reviewers .xxii.....	

Metaheuristics and Optimization 1

A MAX-MIN Ant System with Short-Term Memory Applied to the Dynamic and Asymmetric Traveling Salesman Problem .1.....	
<i>João Pedro Schmitt (Santa Catarina State University), Fabiano Baldo (Santa Catarina State University), and Rafael Stubs Parpinelli (Santa Catarina State University)</i>	
A New Adaptive Operator Selection for NSGA-III Applied to CEC 2018 Many-Objective Benchmark .7.....	
<i>Josiel Kuk (UNICENTRO, UFPR), Richard Goncalves (UNICENTRO, UTFPR), Carolina Almeida (UNICENTRO, UTFPR), Sandra Venske (UNICENTRO), and Aurora Pozo (UFPR)</i>	
A New Genetic Algorithm-Based Pruning Approach for Optimum-Path Forest .13.....	
<i>Gabriel Santos Barbosa (Instituto Federal de Educação, Ciência e Tecnologia do Ceará (IFCE)), Leonardo da Silva Costa (Instituto Federal de Educação, Ciência e Tecnologia do Ceará (IFCE)), and Ajalmar Rêgo da Rocha Neto (Instituto Federal de Educação, Ciência e Tecnologia do Ceará (IFCE))</i>	
An Improved Artificial Bee Colony Algorithm with Diversity Control .19.....	
<i>Walisson Cardoso Gomes (Federal University of Pará), Reginaldo Cordeiro dos Santos Filho (Federal University of Pará), and Claudomiro de Souza de Sales Junior (Federal University of Pará)</i>	
Effects of Population Initialization on Evolutionary Techniques for Subgroup Discovery in High Dimensional Datasets .25.....	
<i>Vitor de Albuquerque Torreão (Universidade Federal de Pernambuco) and Renato Vimieiro (Universidade Federal de Pernambuco)</i>	
Influence of Reference Points on a Many-Objective Optimization Algorithm .31.....	
<i>Matheus Carvalho (Universidade Federal de Sergipe) and André Britto (Universidade Federal de Sergipe)</i>	

Natural Language Processing 1

A Concept-Based ILP Approach for Multi-document Summarization Exploring Centrality and Position .37.....	
<i>Hilário Tomaz Alves de Oliveira (University Center of Joao Pessoa), Rafael Dueire Lins (Informatics Center - UFPE), Rinaldo Lima (Informatics Center - UFPE), Fred Freitas (Informatics Center - UFPE), and Steven J. Simske (Colorado State University)</i>	
Advances in Automatically Solving the ENEM .43.....	
<i>Igor Cataneo Silveira (Universidade de São Paulo) and Denis Deratani Mauá (Universidade de São Paulo)</i>	
Assessing Sentence Simplification Methods Applied to Text Summarization .49.....	
<i>Rafaella Vale (Universidade Federal de Pernambuco), Rafael Lins (Universidade Federal de Pernambuco), and Rafael Ferreira (Universidade Federal Rural de Pernambuco)</i>	
Global Centrality Measures in Word Graphs for Twitter Sentiment Analysis .55.....	
<i>George Vilarinho (University of São Paulo) and Evandro Ruiz (University of São Paulo)</i>	
Hate Speech Classification in Social Media Using Emotional Analysis .61.....	
<i>Ricardo Martins (University of Minho), Marco Gomes (University of Minho), José João Almeida (University of Minho), Paulo Novais (University of Minho), and Pedro Henriques (University of Minho)</i>	
Inference of Researchers' Area of Expertise .67.....	
<i>Felipe Penhorate Carvalho da Fonseca (University of Sao Paulo) and Luciano Antonio Digiampietri (University of Sao Paulo)</i>	

Neural Networks

A Nonintrusive System for Detecting Drunk Drivers in Modern Vehicles .73.....	
<i>Rafael Berri (USP - University of São Paulo / ICMC / LRM - Mobile Robots Lab.) and Fernando Osório (USP - University of São Paulo / ICMC / LRM - Mobile Robots Lab.)</i>	
Estimation of the Energy Production in a Wind Farm Using Regression Methods and Wind Speed Forecast .79.....	
<i>Pedro Pedrosa Rebouças Filho (Instituto Federal de Educação Ciência e Tecnologia do Ceará), Navar de Medeiros Mendonça e Nascimento (Instituto Federal de Educação Ciência e Tecnologia do Ceará), Shara Shami Araújo Alves (Universidade Federal do Ceará), Samuel Luz Gomes (Instituto Federal de Educação Ciência e Tecnologia do Ceará), and Cláudio Marques de Sá Medeiros (Instituto Federal de Educação Ciência e Tecnologia do Ceará)</i>	
Evaluation of Recurrent Neural Networks for Hard Disk Drives Failure Prediction .85.....	
<i>Fernando Dione dos Santos Lima (Universidade Federal do Ceará), Francisco Lucas Falcão Pereira (Universidade Federal do Ceará), Iago Castro Chaves (Universidade Federal do Ceará), João Paulo Pordeus Gomes (Universidade Federal do Ceará), and Javam de Castro Machado (Universidade Federal do Ceará)</i>	

Gene Essentiality Prediction Using Topological Features From Metabolic Networks .91.....	
<i>James Shiniti Nagai (Universidade Federal de São Paulo), Hério Sousa (Universidade Federal de São Paulo), Alexandre Hild Aono (Universidade Federal de São Paulo), Ana Carolina Lorena (Universidade Federal de São Paulo), and Reginaldo Massanobu Kuroshu (Universidade Federal de São Paulo)</i>	
Petroleum Reservoir Connectivity Patterns Reconstruction Using Deep Convolutional Generative Adversarial Networks .97.....	
<i>Rodrigo Exterkoetter (Federal University of Santa Catarina, LTrace Geophysical Solutions), Fernando Bordignon (Federal University of Santa Catarina, LTrace Geophysical Solutions), Leandro Passos de Figueiredo (Federal University of Santa Catarina, LTrace Geophysical Solutions), Mauro Roisenberg (Federal University of Santa Catarina), and Bruno Barbosa Rodrigues (Petrobras)</i>	
Increasing Convolutional Neural Networks Training Speed by Incremental Complexity Learning.103..	
<i>Miguel Domingos de Santana Wanderley (Centro de Informática - Universidade Federal de Pernambuco) and Ricardo Bastos Cavalcante Prudêncio (Centro de Informática - Universidade Federal de Pernambuco)</i>	

Reinforcement Learning

A Framework to Discover and Reuse Object-Oriented Options in Reinforcement Learning .109.....	
<i>Rodrigo Bonini (Universidade de São Paulo), Felipe Leno Da Silva (Universidade de São Paulo, University of Texas at Austin), Ruben Glatt (Universidade de São Paulo), Edison Spina (Universidade de São Paulo), and Anna Helena Reali Costa (Universidade de São Paulo)</i>	
Abstract State Transition Graphs for Model-Based Reinforcement Learning .115.....	
<i>Matheus Ribeiro Furtado de Mendonça (Laboratório Nacional de Computação Científica), Artur Ziviani (Laboratório Nacional de Computação Científica), and André da Motta Salles Barreto (Laboratório Nacional de Computação Científica)</i>	
Bandit-Based Automated Machine Learning .121.....	
<i>Silvia Cristina Nunes das Dôres (Pontifícia Universidade Católica do Rio Grande do Sul), Carlos Soares (Universidade do Porto), and Duncan Ruiz (Pontifícia Universidade Católica do Rio Grande do Sul)</i>	
Control of Gene Regulatory Networks Basin of Attractions with Batch Reinforcement Learning.127...	
<i>Cyntia Eico Hayama Nishida (Universidade de São Paulo), Anna Helena Reali Costa (Universidade de São Paulo), and Reinaldo Augusto da Costa Bianchi (Centro Universitário FEI)</i>	
Equity Trading at the Brazilian Stock Market Using a Q-Learning Based System .133.....	
<i>Stefano Giacomazzi Dantas (University of Brasília) and Daniel Guerreiro e Silva (University of Brasília)</i>	
Multi-armed Bandit Based Hyper-Heuristics for the Permutation Flow Shop Problem .139.....	
<i>Carolina Almeida (UNICENTRO), Richard Gonçalves (UNICENTRO), Sandra Venske (UNICENTRO), Ricardo Lüders (UTFPR), and Myriam Delgado (UTFPR)</i>	

Metaheuristics and Optimization 2

- Cartesian Genetic Programming with Crossover for Designing Combinational Logic Circuits .145.....
José Eduardo da Silva (Universidade Federal de Juiz de Fora (UFJF))
and Heder Bernardino (Universidade Federal de Juiz de Fora (UFJF))
- Evolutionary ELMs with Alternative Treatments for the Population Out-Bounded Individuals .151.....
Luciano D. S. Pacifico (Universidade Federal Rural De Pernambuco),
Teresa B. Ludermit (Universidade Federal De Pernambuco), and Joao F.
L. Oliveira (Universidade De Pernambuco)
- Exploring Evolutive Methods for Cloud Provider Selection Based on Performance Indicators .157.....
Lucas Borges de Moraes (Santa Catarina State University), Adriano
Fiorese (Santa Catarina State University), and Rafael Stubs Parpinelli
(Santa Catarina State University)
- Recommending Meta-Heuristics and Configurations for the Flowshop Problem via
Meta-Learning: Analysis and Design .163.....
Lucas Marcondes Pavelski (Federal University of Technology of Paraná),
Marie-Éléonore Kessaci (University of Lille 1), and Myriam Regattieri
Delgado (Federal University of Technology of Paraná)
- Meta-Learning for Recommending Metaheuristics for the MaxSAT Problem .169.....
Enrico S. Miranda (Federal University of Maranhao, Brazil), Fabio
Fabris (University of Kent), Chrystian G. M. Nascimento (Federal
University of Maranhao, Brazil), Alex A. Freitas (University of Kent),
and Alexandre C. M. Oliveira (Federal University of Maranhao, Brazil)
- Selecting Algorithms for the Quadratic Assignment Problem with a Multi-label Meta-Learning
Approach .175.....
Augusto Dantas (Federal University of Paraná) and Aurora Pozo (Federal
University of Paraná)

Knowledge Representation, AI Theory

- Density-Based Core Support Extraction for Non-stationary Environments with Extreme
Verification Latency .181.....
Raul Sena Ferreira (Radix Software & Engineering), Bruno M. A. da
Silva (Radix Software & Engineering), Wendell Teixeira (CPFL Energy),
Geraldo Zimbrão (Universidade Federal do Rio de Janeiro (UFRJ)), and
Leandro Alvim (Universidade Federal Rural do Rio de Janeiro (UFRRJ))
- Minimal Learning Machine for Interval-Valued Data .188.....
Diêgo Farias de Oliveira (Federal University of Ceará), Nykolos Mayko
Maia Barbosa (Federal University of Ceará), Alisson Sampaio Carvalho
de Alencar (Federal University of Ceará), João Paulo Pordeus Gomes
(Federal University of Ceará), and Leonardo Ramos Rodrigues (Institute
of Aeronautics and Space of Brazil)
- Quantum Enhanced k-fold Cross-Validation .194.....
Priscila dos Santos (Universidade Federal Rural de Pernambuco), Ismael
Araujo (Universidade Federal Rural de Pernambuco), Rodrigo Sousa
(Universidade Federal Rural de Pernambuco), and Adenilton Silva
(Universidade Federal Rural de Pernambuco)

Process Mining Discovery Techniques in a Low-Structured Process Works? .200.....	<i>Raphael J. D'Castro (Universidade Federal de Pernambuco), Adriano L. I. Oliveira (Universidade Federal de Pernambuco), and Augusto H. Terra (Universidade Federal de Pernambuco)</i>
Sparse Minimal Learning Machines Via $L_{1/2}$ Norm Regularization .206.....	<i>Madson L. D. Dias (Federal University of Ceará), Ananda L. Freire (Federal Institute of Ceará), Amauri H. Souza Junior (Federal Institute of Ceará), Ajalmar R. da Rocha Neto (Federal Institute of Ceará), and João P. P. Gomes (Federal University of Ceará)</i>

Deep Learning, Image Processing

A Writer-Independent Approach for Offline Signature Verification using Deep Convolutional Neural Networks Features .212.....	<i>Victor L. F. Souza (Universidade Federal de Pernambuco), Adriano L. I. Oliveira (Universidade Federal de Pernambuco), and Robert Sabourin (Université du Québec)</i>
Deep Learning for People Detection on Beach Images .218.....	<i>Sérgio Chevtchenko (UFRPE), Rafaella Vale (UFPE), Filipe Cordeiro (UFRPE), and Valmir Macario (UFRPE)</i>
Detecting Fake Suppliers using Deep Image Features .224.....	<i>Jonas Wacker (Universidade de Brasília), Rodrigo Peres Ferreira (Universidade de Brasília), and Marcelo Ladeira (Universidade de Brasília)</i>
Efficient Width-Extended Convolutional Neural Network for Robust Face Spoofing Detection .230.....	<i>Gustavo Botelho de Souza (Federal University of São Carlos (UFSCar)), Daniel Felipe da Silva Santos (São Paulo State University (UNESP)), Rafael Gonçalves Pires (Federal University of São Carlos (UFSCar)), João Paulo Papa (São Paulo State University (UNESP)), and Aparecido Nilceu Marana (São Paulo State University (UNESP))</i>
Towards a Referenceless Visual Quality Assessment Model Using Binarized Statistical Image Features .236.....	<i>Pedro Garcia Freitas (University of Brasília), Wellington Y.L. Akamine (University of Brasília), and Mylène C.Q. Farias (University of Brasília)</i>
Visualization Techniques Applied to Image-to-Image Translation .242.....	<i>Églen Protas (Universidade Federal do Rio Grande), José Bratti (Universidade Federal do Rio Grande), Pedro Ribeiro (Universidade Federal do Rio Grande), Paulo Drews-Jr (Universidade Federal do Rio Grande), and Silvia Botelho (Universidade Federal do Rio Grande)</i>

Natural Language Processing 2

Proactive Security: Embedded AI Solution for Violent and Abusive Speech Recognition .248.....	<i>Christopher Shulby (SIDI), Leonardo Pombal (SIDI), Vitor Jordão (SIDI), Guilherme Ziolle (SIDI), Bruno Martho (SIDI), Antônio Postal (SIDI), and Thiago Prochnow (SIDI)</i>
---	--

SPT: A Text Mining Process to Extract Relevant Areas from SW Documents to Exploratory Tests .254.....	
	<i>Cloves Lima (Universidade Federal de Pernambuco), Ivan Santos (Universidade Federal de Pernambuco), Flávia Barros (Universidade Federal de Pernambuco), and Alexandre Mota (Universidade Federal de Pernambuco)</i>
Statera: A Balanced Feature Selection Method for Text Classification .260.....	
	<i>Tatiane Nogueira Rios (Federal University of Bahia) and Braian Varjão Gama Bispo (Federal University of Bahia)</i>
Strategies for Short Text Representation in the Word Vector Space .266.....	
	<i>Marcelo Pita (Universidade Federal de Minas Gerais) and Gisele L. Pappa (Universidade Federal de Minas Gerais)</i>
The Effects of Underlying Mono and Multilingual Representations for Text Classification .272.....	
	<i>Fernando Tadao Ito (Universidade Federal de São Carlos), Helena de Medeiros Caseli (Universidade Federal de São Carlos), and Jander Moreira (Universidade Federal de São Carlos)</i>
Using LSTM Encoder-Decoder for Rhetorical Structure Prediction .278.....	
	<i>Gustavo Bennemann de Moura (Universidade Estadual de Maringá) and Valéria Delisandra Feltrim (Universidade Estadual de Maringá)</i>

Image Processing, Computer Vision

A Face Recognition Framework for Illumination Compensation Based on Bio-Inspired Algorithms .284.....	
	<i>Guilherme Plichoski (Santa Catarina State University), Chidambaram Chidambaram (Santa Catarina State University), and Rafael Stubs Parpinelli (Santa Catarina State University)</i>
A Fuzzy-Adaptive Approach to Segment Metaphase Chromosome Images .290.....	
	<i>Maria F. S. Andrade (Universidade Federal Rural de Pernambuco), Filipe R. Cordeiro (Universidade Federal Rural de Pernambuco), Valmir Macário (Universidade Federal Rural de Pernambuco), Fabiana F. Lima (CRCN-NE), Suy F. Hwang (CRCN-NE), and Julyanne C. G. Mendonça (CRCN-NE)</i>
A Hybrid Improved Group Search Optimization and Otsu Method for Color Image Segmentation .296.....	
	<i>Luciano D. S. Pacifico (Universidade Federal Rural de Pernambuco), Teresa B. Ludermit (Universidade Federal de Pernambuco), and Larissa F. S. Britto (Universidade Federal Rural de Pernambuco)</i>
qFA: An Optimized Based-Tracking Approach Using Firefly Algorithm .302.....	
	<i>Victor Perrone de Lima Varela (Center of FEI), Arthur Oliveira (Center of FEI), Paulo Rodrigues (Center of FEI), and Miller Horvath (Center of FEI)</i>
Lacunarity as a Tool for Analyzing Satellite Images of Urban Areas .307.....	
	<i>Augusto Victor Martins Gomides (Universidade Federal de Uberlândia), Lucas Josino de Paula Gonçalves (Universidade Federal de Uberlândia), Lucas Ricciopo Silva (Universidade Federal de Uberlândia), and André Ricardo Backes (Universidade Federal de Uberlândia)</i>
Nonlinear Discriminant Principal Component Analysis for Image Classification and Reconstruction .312.....	
	<i>Tiene Filisbino (LNCC), Gilson Giraldo (LNCC), and Carlos Thomaz (FEI)</i>

Recommender Systems

- Dimensionality Reduction for the Algorithm Recommendation Problem .318.....
Edesio Alcobaça (University of São Paulo), Rafael G. Mantovani (University of São Paulo), André L. D. Rossi (São Paulo State University), and André C. P. L. F. de Carvalho (University of São Paulo)
- Exploiting Multiple Recommenders to Improve Group Recommendation .324.....
Samuel Oliveira (Universidade Federal de Minas Gerais), Pedro Brum (Universidade Federal de Minas Gerais), Anísio Lacerda (Centro Federal de Educação Tecnológica de Minas Gerais), and Gisele Pappa (Universidade Federal de Minas Gerais)
- Exploring the Data Using Extended Association Rule Network .330.....
Renan de Padua (Universidade de São Paulo), Dario Brito Calçada (Universidade de São Paulo), Veronica Oliveira de Carvalho (Universidade Estadual Paulista), and Solange Oliveira Rezende (Universidade de São Paulo)
- Recommending Scientific Collaboration from ResearchGate .336.....
Marcos W. Rodrigues (Pontifical Catholic University of Minas Gerais), Wladimir C. Brandão (Pontifical Catholic University of Minas Gerais), and Luis E. Zárate (Pontifical Catholic University of Minas Gerais)
- Similarity-Based Matrix Factorization for Item Cold-Start in Recommender Systems .342.....
Eduardo Pereira Fressato (University of São Paulo), Arthur Fortes da Costa (University of São Paulo), and Marcelo Garcia Manzato (University of São Paulo)
- Weightless Neural Network WiSARD Applied to Online Recommender Systems .348.....
Kleyton Pontes Cotta (Universidade Federal do Rio de Janeiro (UFRJ)), Raul Sena Ferreira (Universidade Federal do Rio de Janeiro (UFRJ)), and Felipe M. G. França (Universidade Federal do Rio de Janeiro)

Agent, MAS

- A Hyper-Heuristic Collaborative Multi-objective Evolutionary Algorithm .354.....
Gian Fritsche (Federal University of Paraná) and Aurora Pozo (Federal University of Paraná)
- An Agent-Based Fog Computing Architecture for Resilience on Amazon EC2 Spot Instances .360....
Jose Pergentino Araujo Neto (University of Brasília (UnB)), Donald M. Pianto (University of Brasília (UnB)), and Celia G. Ralha (University of Brasília (UnB))
- Tractable Reasoning about Agent Programming in Dynamic Preference Logic .366.....
Marlo Souza (Federal University of Bahia - UFBA), Álvaro Moreira (Federal University of Rio Grande do Sul - UFRGS), and Renata Vieira (Pontifical Catholic University of Rio Grande do Sul - PUCRS)

MAVIS: A Multiagent Value Investing System .372.....	<i>Everton Rodrigues Reis (Escola Politécnica, Universidade de São Paulo)</i> <i>and Jaime Simão Sichman (Escola Politécnica, Universidade de São Paulo)</i>
Argumentation-Based Reasoning in BDI Agents Using Toulmin's Model .378.....	<i>Vágner de Oliveira Gabriel (PUCRS), Diana Francisca Adamatti (FURG),</i> <i>Alison R. Panisson (PUCRS), Rafael H. Bordini (PUCRS), and Cleo</i> <i>Zanella Billa (FURG)</i>
Explicit Representation of Planning Autonomy in MOISE Organizational Model .384.....	<i>Artur Maia (Universidade de São Paulo) and Jaime Simão Sichman</i> <i>(Universidade de São Paulo)</i>

Classification

Analysis of Graph Construction Methods in Supervised Data Classification .390.....	<i>Murillo Carneiro (Universidade Federal de Uberlândia) and Liang Zhao</i> <i>(Universidade de São Paulo)</i>
Benchmarking Multi-Target Regression Methods .396.....	<i>Saulo Martiello Mastelini (State University of Londrina), Everton Jose</i> <i>Santana (State University of Londrina), Victor Guilherme Turrise da</i> <i>Costa (State University of Londrina), and Sylvio Barbon Jr. (State</i> <i>University of Londrina)</i>
Data Classification: Dimensionality Reduction Using Combined and Non-combined Multidimensional Projection Techniques .402.....	<i>Gustavo Eloi Rodrigues (São Paulo State University (UNESP)), Wilson</i> <i>Marcílio Júnior (São Paulo State University (UNESP)), and Danilo Eler</i> <i>(São Paulo State University (UNESP))</i>
Evaluating Stream Classifiers with Delayed Labels Information .408.....	<i>Vinicius Souza (Instituto de Ciências Matemáticas e de Computação,</i> <i>Universidade de São Paulo), Tiago Pinho (Instituto de Ciências</i> <i>Matemáticas e de Computação, Universidade de São Paulo), and Gustavo</i> <i>Batista (Instituto de Ciências Matemáticas e de Computação,</i> <i>Universidade de São Paulo)</i>
Label Expansion for Multi-label Classification .414.....	<i>Adriano Rivolli (Universidade Tecnológica Federal do Parana), Carlos</i> <i>Soares (INESC TEC / Faculdade de Engenharia da Universidade do Porto),</i> <i>and André C. P. L. F. de Carvalho (Instituto de Ciências Matemáticas e</i> <i>de Computação - Universidade de São Paulo)</i>
Strategies for Selection of Positive and Negative Instances in the Hierarchical Classification of Transposable Elements .420.....	<i>Bruna Zamith Santos (Federal University of São Carlos), Gean Trindade</i> <i>Pereira (Federal University of São Carlos), Felipe Kenji Nakano</i> <i>(Federal University of São Carlos), and Ricardo Cerri (Federal</i> <i>University of São Carlos)</i>

Intelligent Robotics

- An Evolutionary-Cooperative Model Based on Cellular Automata and Genetic Algorithms for the Navigation of Robots Under Formation Control .426.....
Gina Oliveira (Universidade Federal de Uberlândia), Reslley Silva (Universidade Federal de Uberlândia), Laurence Amaral (Universidade Federal de Uberlândia), and Luiz Gustavo Martins (Universidade Federal de Uberlândia)
- Bayesian Classifiers Supported by Ranking for Decision Making in Robot Soccer .432.....
Rodrigo Caputo (Federal University of São João del-Rei (UFSJ)) and Edmilson Santos (Federal University of São João del-Rei (UFSJ))
- Effects of Emotion Grouping for Recognition in Human-Robot Interactions .438.....
Daniel Tozadore (University of Sao Paulo), Caetano Ranieri (University of Sao Paulo), Guilherme Nardari (University of Sao Paulo), Vitor Guizilini (University of Sydney), and Roseli Romero (University of Sao Paulo)
- Organization/fuzzy Approach to the CTO Problem .444.....
João P. B. Andrade (State University of Ceará), Robson Oliveira (State University of Ceará), Thyanne F. da Silva (State University of Ceará), José E. Bessa Maia (State University of Ceará), and Gustavo A. L. de Campos (State University of Ceará)
- Onboard Video Stabilization for Low Cost Small RPAS Surveillance Applications .450.....
Ricardo Maroquio Bernardo (Instituto Federal do Espírito Santo (IFES)), Luis Claudio Batista da Silva (Centro Federal de Educação Tecnológica), and Paulo Fernando Ferreira Rosa (Instituto Militar de Engenharia)
- Robot Localization Using Classification with Reject Option from Structural Co-occurrence Matrix in Omnidirectional Images .456.....
Suane Pires Pinheiro da Silva (Instituto Federal de Educação, Ciência e Tecnologia do Ceará - IFCE), Leandro Bezerra Marinho (Universidade Federal do Ceará - UFC), Jefferson Silva Almeida (Instituto Federal de Educação, Ciência e Tecnologia do Ceará - IFCE), and Pedro Pedrosa Rebouças Filho (Instituto Federal de Educação, Ciência e Tecnologia do Ceará - IFCE)

Ensemble Methods

- A Novel Evolutionary Algorithm for Automated Machine Learning Focusing on Classifier Ensembles .462.....
João C. Xavier-Júnior (Federal University of Rio Grande do Norte), Alex A. Freitas (University of Kent), Antonino Feitosa-Neto (Federal University of Rio Grande do Norte), and Teresa B. Ludermir (Federal University of Pernambuco)
- Dynamic Feature Selection for Classifier Ensembles .468.....
Romulo de Oliveira Nunes (Federal University of Rio Grande do Norte), Carine Azevedo Dantas (Federal University of Rio Grande do Norte), Anne Magaly de Paula Canuto (Federal University of Rio Grande do Norte), and João Carlos Xavier-Júnior (Federal University of Rio Grande do Norte)

Ensemble Methods for Label Noise Detection Under the Noisy at Random Model .474.....	<i>Kecia Gomes de Moura (Federal University of Pernambuco), Ricardo Bastos Cavalcante Prudencio (Federal University of Pernambuco), and George Darmiton da Cunha Cavalcanti (Federal University of Pernambuco)</i>
Making Data Stream Classification Tree-Based Ensembles Lighter .480.....	<i>Victor G. Turrisi da Costa (Londrina State University), Saulo M. Mastelini (Londrina State University), André C. P. de L. F. de Carvalho (University of São Paulo), and Sylvio Barbon (Londrina State University)</i>

GA, Time Series

A Rule-Based Greedy Ant (rGrAnt) Protocol for Networking Environments .486.....	<i>Luís Guilherme Bergamini Mendes (Federal Technological University of Parana (UTFPR)), Ana Cristina Kochem Vendramin (Federal Technological University of Parana (UTFPR)), Anelise Munaretto (Federal Technological University of Parana (UTFPR)), and Myriam R. Delgado (Federal Technological University of Parana (UTFPR))</i>
Empirical Mode Decomposition, Extreme Learning Machine and Long Short-Term Memory for Time Series Prediction: A Comparative Study .492.....	<i>Elivelto Ebermam (Federal University of Espirito Santo), Gabriel De Angelo (Federal University of Espirito Santo), Helder Knidel (LABCIN), and Renato Krohling (Federal University of Espirito Santo)</i>
Search Operators for Genetic Algorithms Applied to Well Positioning in Oil Fields .498.....	<i>Romulo M. S. Souza (University of Campinas (Unicamp)), Guilherme P. Coelho (University of Campinas (Unicamp)), Antonio Alberto S. Santos (University of Campinas (Unicamp)), and Denis J. Schiozer (University of Campinas (Unicamp))</i>
Time Series Decomposition Using Spring System Applied on Phase Spaces .504.....	<i>Felipe Simões Lage Gomes Duarte (University of Sao Paulo), Ricardo Araujo Rios (Federal University of Bahia), Eduardo Raul Hruschka (University of Sao Paulo), and Rodrigo Fernandes de Mello (University of Sao Paulo)</i>

Planning, Logics

A Rough Sets-Based Rule Induction for Numerical Datasets .510.....	<i>Rafael da Silva Albuquerque Silva Albuquerque (Federal University of Ceará), João Fernando Lima Alcântara Lima Alcântara (Federal University of Ceará), and João Paulo Pordeus Gomes Pordeus Gomes (Federal University of Ceará)</i>
Bio-Inspired and Heuristic Methods Applied to a Benchmark of the Task Scheduling Problem .516....	<i>Tiago Ismaier Carvalho (Universidade Federal de Uberlândia), Bruno Well Dantas Moraes (Universidade Federal de Uberlândia), and Gina Mairba Barbosa Oliveira (Universidade Federal de Uberlândia)</i>

Occupation Measure Heuristics to Solve Stochastic Shortest Path with Dead Ends .522.....	<i>Milton Condori Fernández (University of São Paulo), Leliane Nunes de Barros (University of São Paulo), and Karina Valdivia Delgado (University of São Paulo)</i>
Solving a Spatial Puzzle Using Answer Set Programming Integrated with Markov Decision Process .528.....	<i>Thiago Freitas dos Santos (Centro Universitário da FEI), Paulo Santos (Centro Universitário da FEI), Leonardo Ferreira (Accesstage Tecnologia S.A.), Reinaldo Bianchi (Centro Universitário da FEI), and Pedro Cabalar (University of Corunna)</i>
Synthesis of a DNF Formula From a Sample of Strings .534.....	<i>Thiago Alves Rocha (Instituto Federal de Educação, Ciência e Tecnologia do Ceará), Ana Teresa Martins (Universidade Federal do Ceará), and Francicleber Martins Ferreira (Universidade Federal do Ceará)</i>

Clustering

A Novel Equidistant-Scattering-Based Cluster Index .540.....	<i>Caio Flexa (Federal University of Pará), Reginaldo Santos (Federal University of Pará), Walisson Gomes (Federal University of Pará), and Claudomiro Sales (Federal University of Pará)</i>
A Study of Biclustering Coherence Measures for Gene Expression Data .546.....	<i>Victor Alexandre Padilha (University of São Paulo) and André Carlos Ponce de Leon Ferreira de Carvalho (University of São Paulo)</i>
Instance Selection and Class Balancing Techniques for Cross Project Defect Prediction .552.....	<i>Alysson Bispo (Federal University of Pernambuco (UFPE)), Ricardo Prudêncio (Federal University of Pernambuco (UFPE)), and Douglas Vêras (Federal Rural University of Pernambuco (UFRPE))</i>
On Monotonic Tendency of Some Fuzzy Cluster Validity Indices for High-Dimensional Data .558.....	<i>Fernanda Eustáquio (Federal University of Bahia) and Tatiane Nogueira (Federal University of Bahia)</i>
Trajectory Network Assessment Based on Analysis of Stay Points Cluster .564.....	<i>Diego Minatel (Universidade de São Paulo), Alan Valejo (Universidade de São Paulo), and Alneu A. Lopes (Universidade de São Paulo)</i>
Fusion of Local Descriptors for Multi-view Facial Expression Recognition .570.....	<i>Xuejian Wang (University of Kent), Michael Fairhurst (University of Kent), and Anne Canuto (Universidade Federal do Rio Grande do Norte)</i>

Author Index .577.....	
------------------------	--