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MONDAY, JULY 9

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Session Chairs: Josu Ceberio, Olivier Regnier-Coudert, and Valentino Santucci

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Ahmed Hassan and Nelishia Pillay
University of KwaZulu-Natal, South Africa; University of Pretoria, South Africa

SS26: Intelligent Transportation and Logistics Networks**Wednesday, July 11, 2:10PM-4:10PM****CAPRI I****Session Chairs: Chuan-Kang Ting, Rung-Tzuo Liaw, Hui Cheng, and Shengxiang Yang****Co-adaptive Reinforcement Learning in Microscopic Traffic Systems..... 1461***Liza Lemos, Ana Bazzan and Marcia Pasin**Universidade Federal do Rio Grande do Sul, Brazil; Universidade Federal de Santa Maria, Brazil***A condition-based maintenance methodology for rails in regional railway networks using evolutionary multiobjective optimization..... 1469***Alfredo Nunez, Ali Jamshidi, Hongrui Wang, Jurjen Hendriks, Ivan Ramirez, Jan Moraal, Rolf Dollevoet and Zili Li**Delft University of Technology, Netherlands***Biased Random-key Genetic Algorithm Applied to the Vehicle Routing Problem with Private Fleet and Common Carrier..... 1476***William Higino, Antonio Chaves and Vinicius Melo**ITA / Unifesp, Brazil; Unifesp, Brazil***Implementation of a RVND, VNS, ILS heuristic for the Traveling Car Renter Problem 1484***Rogério Ferreira de Moraes, Andre Renato Villela da Silva, Luiz Satoru Ochi and Luis Marti**Universidade Federal do Rio de Janeiro, Brazil; Universidade Federal Fluminense, Brazil***Clustering-based Search in a Memetic Algorithm for the Vehicle Routing Problem with Time Windows 1492***Daniel Bustos, Maristela Santos, Claudio Toledo and Fernando Nino**University of Sao Paulo, Brazil; National University of Colombia, Colombia***SS9: Evolutionary Computer Vision & Image Classification****Wednesday, July 11, 2:10PM-4:10PM****CAPRI II****Session Chairs: Mengjie Zhang, Vic Ciesielski, and Mario Köppen****Particle Swarm Optimization Based Approach for Finding Optimal Values of Convolutional Neural Network Parameters..... 1500***Toshi Sinha, Ali Haidar and Brijesh Verma**Central Queensland University, Australia***Evolutionary Approach to Straight Line Approximation for Image Matching in Dance-Posture Recognition 1506***Pratyusha Rakshit, Sriparna Saha, Amit Konar and Atulya K. Nagar**Jadavpur University, India; Maulana Abul Kalam Azad University of Technology, West Bengal, India; Liverpool Hope University, United Kingdom***Evolving Deep Convolutional Neural Networks by Variable-length Particle Swarm Optimization for Image Classification..... 1514***Bin Wang, Yanan Sun, Bing Xue and Mengjie Zhang**Victoria University of Wellington, New Zealand***Comparison of VCA and GAEE algorithms for Endmember Extraction 1522***Douglas Winston Ribeiro Soares, Gustavo Teodoro Laureano and Celso Goncalves Camilo Junior**Federal University of Goias, Brazil***EEG-based Person Authentication Using Multi-objective Flower Pollination Algorithm..... 1530***Zaid Alyasseri, Ahamad Khader, Mohammed Al-Betar, Joao Papa and Osama Al-Omari**University of Kufa, Iraq; School of Computer Sciences, Universiti Sains Malaysia, Pulau Pinang, Malaysia; Department of Information Technology, Al-Huson University College, Al-Balqa Applied University, Al-Huson, Irbid, Jordan; Sao Paulo State University, Department of Computing, Bauru, Brazil***Evolutionary Deep Learning: A Genetic Programming Approach to Image Classification 1538***Benjamin Evans, Harith Al-Sahaf, Bing Xue and Mengjie Zhang**Victoria University of Wellington, New Zealand*

SS36: Parallel and Distributed Evolutionary Computation in the Inter-Cloud Era
Wednesday, July 11, 2:10PM-4:10PM
CAPRI III
Session Chairs: Noriyuki Fujimoto,, Hiroyuki Sato, and Yuji Sato

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<i>Ioannis Christou</i> <i>Athens Information Technology, Greece</i>	
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<i>Lucas A da Silveira, Jose Luis Soncco-Alvarez, Thaynara A de Lima and Mauricio Ayala-Rincon</i> <i>Universidade de Brasilia, Brazil; Universidad Nacional del Cusco, Peru; Universidade de Goias, Brazil</i>	
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BEMO: Bilevel and Multi-Objective Optimization
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Xuehan Wang, Yuping Wang and Xiaoli Wang
School of Computer Science and Technology Xidian University, China

Guided Genetic Algorithm for Information Diffusion Problems..... 1722

Pavel Kromer and Jana Nowakova
VSB - Technical University of Ostrava, Czech Republic

Multi-Satellite Scheduling Framework and Algorithm for Very Large Area Observation..... 1730

Yingjie Xu, Xiaolu Liu, Renjie He, Yingguo Chen and Yuning Chen
National University of Defense Technology, China

A Simple and Fast Heuristic Algorithm for Time-dependent AEOS Scheduling Problem 1738

Ji Lu, Yuning Chen, Renjie He and Yingwu Chen
National University of Defense Technology, China

A Loosely Coupled Hybrid Meta-Heuristic Algorithm for the Static Independent Task Scheduling Problem in Grid Computing..... 1746

Muhanad Tahir Younis, Shengxiang Yang and Benjamin N. Passow
Centre for Computational Intelligence, De Montfort University, United Kingdom

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Yi Mei and Mengjie Zhang
Victoria University of Wellington, New Zealand

ACO: Swarm Intelligence and Ant Colony Optimization
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Mushroom Reproduction Optimization (MRO): A Novel Nature-Inspired Evolutionary Algorithm 1762

Mahdi Bidar, Hamidreza Rashidy Kanan, Malek Mouhoub and Samira Sadaoui
University of Regina, Canada; Shahid Rajaee Teacher Training University, Iran

A Dynamic Reconstruction Bare Bones Particle Swarm Optimization Algorithm 1772

Jia Guo and Yuji Sato
Graduate School of Computer and Information Science, Hosei University, Japan; Faculty of Computer and Information Science, Hosei University, Japan

Random Convergence Analysis of Particle Swarm Optimization with Time-varying Attractor..... N/A

Jun Liu, Ping Li, Tianyun Shi, Xiaoning Ma and Xin Li
Institute of Computing Technologies, Chinese Academy of Railway Sciences, China

Feasibility and Availability based Heuristics for ACO algorithms solving Binary CSP 1786

Nicolas Rojas-Morales, Maria-Cristina Riff and Bertrand Neveu
Universidad Tecnica Federico Santa Maria, Chile; Ecole des Ponts, France

Archive-Based Pheromone Model for Discovering Regression Rules with Ant Colony Optimization..... 1794

Ayah Helal, James Brookhouse and Fernando Otero
University of Kent, United Kingdom

An Ant Colony Optimization for Automatic Data Clustering Problem..... 1801

Tatiane Pacheco, Luciana Goncalves, Victor Stroele and Stenio Soares
Federal University of Juiz de Fora, Brazil

CDSS-01: Computational Intelligence for the Automated Design of Machine Learning and Search
Wednesday, July 11, 4:30PM-6:30PM
CAPRI III
Session Chairs: Nelishia Pillay and Rong Qu

Automatic Evolution of AutoEncoders for Compressed Representations 1809
Filipe Assuncao, David Sereno, Nuno Lourenco, Penousal Machado and Bernardete Ribeiro
CISUC, University of Coimbra, Portugal

A Novel Approach for Optimizing Ensemble Components in Rainfall Prediction 1817
Ali Haidar, Brijesh Verma and Toshi Sinha
Central Queensland University, Australia

Nurturing Promotes the Evolution of Generalized Supervised Learning 1825
Bryan Hoke and Dean Houghton
University of Oklahoma, United States of America

Evolving Deep Neural Networks for Movie Box-office Revenues Prediction 1833
Yao Zhou and Gary Yen
Sichuan University, China; Oklahoma State University, United States of America

Analysis of the complexity of the automatic pipeline generation problem 1841
Unai Garciarena, Roberto Santana and Alexander Mendiburu
University of the Basque Country (UPV/EHU), Spain

CDSS-12: Computational intelligence in power systems
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CAPRI IV
Session Chairs: N Kumarappan and Ramesh Rayudu

Hybrid WIPSO-GSA Algorithm Based Optimal DG and Capacitor Planning Considering Different Load Types and Load Levels 1849
Arulraj R. and Kumarappan N.
Annamalai University, India

Distribution Network Reconfiguration together with Distributed Generator and Shunt Capacitor allocation for Loss Minimization 1857
Partha Biswas, Ponnuthurai Suganthan and Gehan Amaratunga
Nanyang Technological University, Singapore; University of Cambridge, United Kingdom

Applying C-DEEPSO to solve Large Scale Global Optimization Problems 1864
Carolina Marcelino, Carlos Pedreira, Elizabeth Wanner, Leonel Carvalho and Paulo Almeida
COPPE - PESC - UFRJ, Brazil; Aston University, United Kingdom; INESC TEC, Portugal; CEFET-MG, Brazil

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CDS-16: Computational Intelligence for Performance optimisation of PID-like controllers, Robotics other Electrical Engineering Applications
Thursday, July 12, 8:00AM-10:00AM
CAPRI I
Session Chairs: Simone Ludwig and Alejandro Rodriguez-Molina

Adaptive Control for the Four-Bar Linkage Mechanism Based on Differential Evolution..... 1872
Alejandro Rodriguez-Molina, Miguel Gabriel Villarreal-Cervantes and Mario Aldape-Perez
CIDETEC-IPN, Mexico

Particle-Swarm Optimization Control of Active -Power Filter for Harmonic Mitigation of Hybrid Electric-Unbalanced Traction-System..... 1879
Essamudin Ebrahim, Gaber EL-Saady, Haussien Abdul-ghaffar, Yehia Mohamed and Abou-Hashima El-Sayed
Electronics Research Institute, Egypt; Faculty of Engineering Assiut University, Egypt; Faculty of Engineering, Minia University, Egypt

Genetic Algorithm Based Dynamics Modeling and Control of a Parallel Rehabilitation Robot..... 1887
Chen Wang, Liang Peng, Lincong Luo, Zeng-Guang Hou and Weiqun Wang
Institute of Automation, Chinese Academy of Sciences, China

Particle Swarm-Optimised PID Control of a Receiver Aircraft during Aerial Refuelling 1894
Aarti Panday and Jimoh Pedro
University of the Witwatersrand, South Africa

Evolutionary Optimization in Robotic Radiotherapy Treatment Planning: A Comparison of Clinical Results with L-BFGS Optimization..... 1902
Matthew Witten and Owen Clancey
NYU Winthrop Hospital, United States of America

Genetic Algorithm based Kalman Filter Adaptation Algorithm for Magnetic and Inertial Measurement Unit 1909
Simone Ludwig
North Dakota State University, United States of America

CDSS-18: Computational Intelligence Methods towards Big Data Analytics
Thursday, July 12, 8:00AM-10:00AM
CAPRI II
Session Chairs: Yuping Wang and Yiuming Cheung

Generating EEG Graphs Based on PLA For Brain Wave Pattern Recognition 1916
Hao Lan Zhang, Huanyu Zhao, Yiu-ming Cheung and Jing He
Center for SCDM, NIT, Zhejiang University, China; Institute of Applied Mathematics, Hebei Academy of Sciences, China; Hong Kong Baptist University, Hong Kong; Nanjing University of Finance and Economics, China

A New Clustering Algorithm By Using Boundary Information..... 1923
Junkun Zhong, Yuping Wang, Hui Du and Wuning Tong
Xidian University, China

A Hierarchical Model with Pseudoinverse Learning Algorithm Optimazation for Pulsar Candidate Selection.... 1931
Li Shijia, Feng Sibao, Guo Ping and Yin Qian
Beijing Normal University, China

Pseudoinverse Learning Algorithm for Fast Sparse Autoencoder Training 1937
Bingxin Xu and Guo Ping
Beijing Key Laboratory of Information Service Engineering, Beijing Union University, China; Beijing Normal University, China

A Preliminary Study of the Feasibility of Global Evolutionary Feature Selection for Big Datasets under Apache Spark 1943
Mikel Galar, Isaac Triguero, Humberto Bustince and Francisco Herrera
Public University of Navarre, Spain; University of Nottingham, United Kingdom; University of Granada, Spain

What's the Next Move? Learning Player Strategies in Zoom Poker Games 1951
Murillo Carneiro and Gabriel Lisboa
Federal University of Uberlandia, Brazil

SS23: Evolutionary Computation for Communication Networks
Thursday, July 12, 8:00AM-10:00AM
CAPRI III
Session Chairs: Chuan-Kang Ting, Hui Cheng, and Shengxiang Yang

Managing Quality of Service through Intelligent Scheduling in Heterogeneous Wireless Communications Networks 1959
David Lynch, David Fagan, Stepan Kucera, Holger Claussen and Michael O'Neill
Natural Computing Research and Applications Group, School of Business, University College Dublin, Ireland; Bell Laboratories, Nokia-Ireland, Ireland

Manyobjective Optimization to Design Physical Topology of Optical Networks with Undefined Node Locations 1967
Jorge Nascimento, Danilo Araujo, Carmelo Bastos-Filho and Joaquim Martins-Filho
UFRPE, Brazil; UPE, Brazil; UFPE, Brazil

Optimal Computational Distribution of Social Network Optimization in Wireless Sensor Networks 1974
Francesco Grimaccia, Marco Mussetta, Alessandro Niccolai and Riccardo Zich
Politecnico di Milano, Dipartimento di Energia, Italy

Application of Evolutionary Algorithm to Allocate Resources in Wireless Networks with Carrier Aggregation 1981
Marcus Vinicius Gonzaga Ferreira, Flavio Henrique Teles Vieira, Juliana Paula Felix, Dalton Foltran de Souza and Ricardo Augusto Pereira Franco
Federal University of Goias, Brazil

Comparison of binary Evolutionary Algorithms for Optimization of Thinned Array Antennas 1989
Francesco Grimaccia, Marco Mussetta, Alessandro Niccolai and Riccardo Zich
Politecnico di Milano, Dipartimento di Energia, Italy

Metaheuristics in the Project of Cellular Automata for Key Generation in Stream Cipher Algorithms 1997
Andre Brito, Stenio Soares and Saulo Villela
Federal University of Juiz de Fora, Brazil

BIO2: Biometrics, Bioinformatics and Biomedical Applications II
Thursday, July 12, 8:00AM-10:00AM
CAPRI IV
Session Chairs: Mengjie Zhang

Microarray Classification and Gene Selection with FS-NEAT 2005
Bruno Iochins Grisci, Bruno Cesar Feltes and Marcio Dorn
Institute of Informatics, Federal University of Rio Grande do Sul, Brazil

A Genetic Algorithm Based on Restricted Tournament Selection for the 3D-PSP Problem 2013
Bruno Borguesan, Pedro Henrique Narloch, Mario Inostroza-Ponta and Marcio Dorn
Institute of Informatics, Federal University of Rio Grande do Sul, Brazil; Departamento de Ing. Informatica, Universidad de Santiago de Chile, Chile

Reconstruction of Boolean regulatory models of flower development exploiting an evolution strategy 2021
Gonzalo Ruz, Eric Goles and Sylvain Sene
Universidad Adolfo Ibanez, Chile; Aix-Marseille University, France

Genetic Programming for Preprocessing Tandem Mass Spectra to Improve the Reliability of Peptide Identification	2028
<i>Samaneh Azari, Mengjie Zhang, Bing Xue and Lifeng Peng</i> <i>Victoria University of Wellington, New Zealand</i>	
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<i>Julian Castaneda, Carlos Sierra, Tania Rodriguez and Jonatan Gomez</i> <i>Universidad Antonio Narino, Colombia; Universidad Minuto de Dios, Colombia; Universidad Nacional de Colombia, Colombia</i>	
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<i>Hendrik Richter</i> <i>HTWK Leipzig University of Applied Sciences, Germany</i>	
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<i>ATM Golam Bari, Alessio Gaspar, R. Paul Wiegand and Anthony Bucci</i> <i>University of South Florida, Tampa, FL, United States of America; University of South Florida, Tampa, FL, United States of America; University of Central Florida, Orlando, FL, United States of America; 119 Amory St. Cambridge, MA, United States of America</i>	
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<i>Carlos M. Fernandes, J.L.J. Laredo, J.J. Merelo, Carlos Cotta and Agostinho C. Rosa</i> <i>University of Lisbon, Portugal; University of Le Havre, France; University of Granada, Spain; University of Malaga, Spain</i>	
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<i>Kenya Jin'no</i> <i>Tokyo City University, Japan</i>	
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<i>Paulo Paiva, Marley Vellasco and Jose Amaral</i> <i>Pontifical Catholic University of Rio de Janeiro, Brazil; State University of Rio de Janeiro, Brazil</i>	
SS16: When Evolutionary Computation Meets Data Mining Thursday, July 12, 2:10PM-4:10PM CAPRI II Session Chairs: Chuan-Kang Ting, Zhun Fan, and Xinye Cai	
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<i>Flavio Motta, Joao Freitas, Felipe Souza, Heder Bernardino, Itamar Oliveira and Helio Barbosa</i> <i>Universidade Federal de Juiz De Fora, Brazil; Universidade Federal de Juiz de Fora, Brazil; Laboratorio Nacional de Computacao Cientifica, Brazil</i>	
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<i>Grant Daly, Ryan Benton and Tom Johnsten</i> <i>Dept. Computer Science, School of Computing, University of South Alabama, United States of America</i>	

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<i>Tarcisio Lucas, Renato Vimieiro and Teresa Ludermit</i> <i>Universidade Federal de Pernambuco, Brazil</i>	
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<i>Gean Pereira, Bruna Zamith and Ricardo Cerri</i> <i>Federal University of Sao Carlos, Brazil</i>	
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<i>Charles Ferreira, Fabricio Franca and Debora Medeiros</i> <i>Federal University of ABC, Brazil</i>	
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<i>Guilherme Aldeia and Fabricio de Franca</i> <i>UFABC, Brazil</i>	
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FBA: Fruit Fly, Firefly, Fireworks & Brainstorm Algorithms and their Applications Thursday, July 12, 2:10PM-4:10PM CAPRI IV Session Chairs: Milan Tuba	
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<i>Xiaoyi Feng, Ao Liu, Weiliang Sun, Xiaofeng Yue and Bo Liu</i> <i>City University of Hong Kong, Hong Kong; Wuhan University of Science and Technology, China; Tianjin University, China; Huazhong University of Science and Technology, China; Academy of Mathematics and Systems Science, Chinese Academy of Sciences, China</i>	
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<i>Ivana Strumberger, Eva Tuba, Nebojsa Bacanin, Marko Beko and Milan Tuba</i> <i>Singidunum University, Serbia and Montenegro; Universidade Lusofona de Humanidades e Tecnologias, Portugal</i>	

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Ye Xuemei, Li Junzhi, Xu Bo and Tan Ying

Institute of Automation, Chinese Academy of Sciences, China; School of Electronics Engineering and Computer Science, Peking University, China

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Eva Tuba, Ivana Strumberger, Dejan Zivkovic, Nebojsa Bacanin and Milan Tuba

Singidunum University, Serbia and Montenegro

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Liang Jing, Wang Peng, Yue Cai tong, Qu Bo yang, Yu Kun jie and Li Zhi hui

Zhengzhou University, China; Zhongyuan University of Technology, China

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Thursday, July 12, 4:10PM-6:30PM
Europa II
Session Chairs: Millaray Curilem

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Sergio Manuel Serra da Cruz, Anderson Oliveira and Fabricio Firmino Faria

UFRRJ, Brazil; UFRJ, Brazil

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Victor Costa and Cesar Rodrigues

Federal University of Santa Maria, Brazil

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Gabriel Silva, Marcelo Fantinato, Sarajane Peres and Hajo Reijers

University of Sao Paulo, Brazil; Vrije Universiteit Amsterdam, Netherlands

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Leonardo Rodrigues, Joao Paulo Gomes, Ajalmar Rocha Neto and Amauri Souza Junior

Instituto de Aeronautica e Espaco, Brazil; Universidade Federal do Ceara, Brazil; Instituto Federal do Ceara, Brazil

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Vivian Medeiros, Alan Kubrusly, Marcelo Jimenez, Miguel Freitas and Jean Weid

Pontifical Catholic University of Rio de Janeiro, Brazil

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University of Campinas (SP), Brazil

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Bruno Santos, Neri Nobre and Luis Zarate

Pontificia Universidade Catolica de Minas Gerais, Brazil

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Luciano Pacifico and Teresa Ludermir

Universidade Federal Rural de Pernambuco, Brazil; Universidade Federal de Pernambuco, Brazil

SS44: Evolutionary Methods and Machine Learning in Software Engineering, Testing and SE Repositories

Thursday, July 12, 4:30PM-6:30PM

CAPRI I

Session Chairs: Jose A. Lozano, Daniel Rodríguez, Francisco Chicano, and Francisco Palomo Lozano

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Helson Jakubovski-Filho, Thiago Ferreira and Silvia Vergilio

Federal University of Parana, Brazil

Mutation-based Evolutionary Fault Localisation	2291
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Science, Guangdong Polytechnic Normal University, China; Department of Industrial Engineering and Engineering

Management, National Tsing Hua University, Taiwan; School of Information Technology, University of Sydney, Australia;

Institute of Resources Management and Decision Science, Management College, National Defense University, Taiwan

EMO3: Multi-Objective Evolutionary Algorithms III

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