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Preface

This two-volume set contains the proceedings of EvoApplications 2016, the 19th European Conference on the Applications of Evolutionary Computation, that was held between March 30 and April 1, 2016, in Porto, Portugal, as a part of EVO*.

Over two decades, EVO* has become Europe's premier event in the field of evolutionary computing. Under the EVO* umbrella, EvoAPPS aims to show the modern applications of this research, ranging from proof of concepts to industrial case studies; EuroGP focuses on genetic programming; EvoCOP targets evolutionary computation in combinatorial optimization; and EvoMUSART is dedicated to evolved and bio-inspired music, sound, art, and design. The proceedings for all of these events are available in the LNCS series.

If EVO* coalesces four different conferences, EvoAPPS exhibits an even higher granularity: It started in 1998 as a collection of small independent workshops and it slowly brought together such vibrant and heterogeneous communities into a single organic event. At the same time, the scientific contributions started to show content more suited to a conference, and workshops evolved into tracks. The change is not over yet: As the world of evolutionary computation is in a constant turmoil, EvoAPPS is mutating to adapt. The scope broadened to include all nature-inspired and bio-inspired computational techniques and computational intelligence in general. New tracks appear every year, while others are merged or suspended.

The conference provides a unique opportunity for students, researchers, and professionals to meet and discuss the applicative and practical aspects of evolutionary computation, and to link academia to industry in a variety of domains.

The 2016 edition comprised 13 tracks focusing on different application domains: EvoBAFIN (business analytics and finance); EvoBIO (computational biology); EvoCOMNET (communication networks and other parallel and distributed systems); EvoCOMPLEX (complex systems); EvoENERGY (energy-related optimisation); EvoGAMES (games and multi-agent systems); EvoIASP (image analysis, signal processing, and pattern recognition); EvoINDUSTRY (real-world industrial and commercial environments); EvoNUM (continuous parameter optimization); EvoPAR (parallel architectures and distributed infrastructures); EvoRISK (risk management, security, and defence); EvoROBOT (evolutionary robotics); and EvoSTOC (stochastic and dynamic environments).

This year, we received 115 high-quality submissions, most of them well suited to fit in more than one track. We selected 58 papers for full oral presentation, while 17 works were given limited space and were shown as posters. All such contributions, regardless of the presentation format, appear as full papers in these two volumes (LNCS 9597 and 9598).

Many people contributed to this edition: We express our gratitude to the authors for submitting their works, and to the members of the Program Committees for devoting such huge effort to review papers pressed by our tight schedule.

The papers were submitted, reviewed, and selected through the MyReview conference management system, and we are grateful to Marc Schoenauer (Inria, Saclay-Île-de-France, France) for providing, hosting, and managing the platform.

We thank the local organizers, Penousal Machado and Ernesto Costa (University of Coimbra, Portugal), as well as the Câmara Municipal do Porto and Turismo do Porto for the local assistance.

We thank Pablo García Sánchez (Universidad de Granada, Spain) for maintaining the EVO* website and handling publicity.

We thank the invited speakers, Richard Forsyth and Kenneth Sörensen, for their inspiring presentations.

We thank the Institute for Informatics and Digital Innovation at Edinburgh Napier University, UK, for the coordination and financial administration.

And we express our gratitude to Jennifer Willies for her dedicated and continued involvement in EVO*. Since 1998, she has been essential for building our unique atmosphere.

February 2016

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Contents – Part I

EvoBAFIN

Enhanced Multiobjective Population-Based Incremental Learning with Applications in Risk Treaty Optimization	3
<i>Omar Andres Carmona Cortes and Andrew Rau-Chaplin</i>	
Genetic Programming with Memory For Financial Trading.	19
<i>Alexandros Agapitos, Anthony Brabazon, and Michael O'Neill</i>	
Improving Fitness Functions in Genetic Programming for Classification on Unbalanced Credit Card Data.	35
<i>Van Loi Cao, Nhien-An Le-Khac, Michael O'Neill, Miguel Nicolau, and James McDermott</i>	
Evolving Classification Models for Prediction of Patient Recruitment in Multicentre Clinical Trials Using Grammatical Evolution	46
<i>Gilyana Borlikova, Michael Phillips, Louis Smith, and Michael O'Neill</i>	
Portfolio Optimization, a Decision-Support Methodology for Small Budgets	58
<i>Igor Deplano, Giovanni Squillero, and Alberto Tonda</i>	
Evolutionary Multiobjective Optimization for Portfolios in Emerging Markets: Contrasting Higher Moments and Median Models	73
<i>Mai A. Ibrahim, Mohammed El-Beltagy, and Motaz Khorshid</i>	

EvoBIO

On Combinatorial Optimisation in Analysis of Protein-Protein Interaction and Protein Folding Networks	91
<i>David Chalupa</i>	
A Multi-objective Genetic Programming Biomarker Detection Approach in Mass Spectrometry Data.	106
<i>Soha Ahmed, Mengjie Zhang, Lifeng Peng, and Bing Xue</i>	
Automating Biomedical Data Science Through Tree-Based Pipeline Optimization.	123
<i>Randal S. Olson, Ryan J. Urbanowicz, Peter C. Andrews, Nicole A. Lavender, La Creis Kidd, and Jason H. Moore</i>	

Bicliques in Graphs with Correlated Edges: From Artificial to Biological Networks	138
<i>Aaron Kershenbaum, Alicia Cutillo, Christian Darabos, Keitha Murray, Robert Schiaffino, and Jason H. Moore</i>	
Hybrid Biclustering Algorithms for Data Mining.	156
<i>Patryk Orzechowski and Krzysztof Boryczko</i>	
Discovering Potential Clinical Profiles of Multiple Sclerosis from Clinical and Pathological Free Text Data with Constrained Non-negative Matrix Factorization.	169
<i>Jacopo Acquarelli, The Netherlands Brain Bank, Monica Bianchini, and Elena Marchiori</i>	
Application of Evolutionary Algorithms for the Optimization of Genetic Regulatory Networks.	184
<i>Elise Rosati, Morgan Madec, Abir Rezgui, Quentin Colman, Nicolas Toussaint, Christophe Lallement, and Pierre Collet</i>	
EvoCOMNET	
A Hybrid Discrete Artificial Bee Colony Algorithm for the Multicast Routing Problem.	203
<i>Yannis Marinakis, Magdalene Marinaki, and Athanasios Migdalis</i>	
Evolving Coverage Optimisation Functions for Heterogeneous Networks Using Grammatical Genetic Programming	219
<i>Michael Fenton, David Lynch, Stepan Kucera, Holger Claussen, and Michael O'Neill</i>	
Joint Topology Optimization, Power Control and Spectrum Allocation for Intra-Vehicular Multi-hop Sensor Networks Using Dandelion-Encoded Heuristics.	235
<i>Javier Del Ser, Miren Nekane Bilbao, Cristina Perfecto, Antonio Gonzalez-Pardo, and Sergio Campos-Cordobes</i>	
A Heuristic Crossover Enhanced Evolutionary Algorithm for Clustering Wireless Sensor Network	251
<i>Muyiwa Olakanmi Oladimeji, Mikdam Turkey, and Sandra Dudley</i>	
A Variable Local Search Based Memetic Algorithm for the Load Balancing Problem in Cloud Computing	267
<i>Nasser R. Sabar, Andy Song, and Mengjie Zhang</i>	
An (MI)LP-Based Primal Heuristic for 3-Architecture Connected Facility Location in Urban Access Network Design	283
<i>Fabio D'Andreagiovanni, Fabian Mett, and Jonad Pulaj</i>	

Reducing Efficiency of Connectivity-Splitting Attack on Newscast via Limited Gossip	299
<i>Jakub Muszyński, Sébastien Varrette, and Pascal Bouvry</i>	

A Distributed Intrusion Detection Framework Based on Evolved Specialized Ensembles of Classifiers	315
<i>Gianluigi Folino, Francesco Sergio Pisani, and Pietro Sabatino</i>	

UAV Fleet Mobility Model with Multiple Pheromones for Tracking Moving Observation Targets.	332
<i>Christophe Atten, Loubna Channouf, Grégoire Danoy, and Pascal Bouvry</i>	

EvoCOMPLEX

Towards Intelligent Biological Control: Controlling Boolean Networks with Boolean Networks	351
<i>Nadia S. Taou, David W. Corne, and Michael A. Lones</i>	

The Emergence of Cooperation in Public Goods Games on Randomly Growing Dynamic Networks	363
<i>Steve Miller and Joshua Knowles</i>	

Influence Maximization in Social Networks with Genetic Algorithms	379
<i>Doina Bucur and Giovanni Iacca</i>	

Measuring Diversity of Socio-Cognitively Inspired ACO Search	393
<i>Ewelina Świdarska, Jakub Łasisz, Aleksander Byrski, Tom Lenaerts, Dana Samson, Bipin Indurkha, Ann Nowé, and Marek Kisiel-Dorohinicki</i>	

Multiwinner Voting in Genetic Algorithms for Solving Ill-Posed Global Optimization Problems.	409
<i>Piotr Faliszewski, Jakub Sawicki, Robert Schaefer, and Maciej Smółka</i>	

EvoENERGY

A Decentralized PSO with Decoder for Scheduling Distributed Electricity Generation	427
<i>Jörg Bremer and Sebastian Lehnhoff</i>	

Comparison of Multi-objective Evolutionary Optimization in Smart Building Scenarios	443
<i>Marlon Braun, Thomas Dengiz, Ingo Mauser, and Hartmut Schmeck</i>	

A Hybrid Genetic Algorithm for the Interaction of Electricity Retailers with Demand Response	459
<i>Maria João Alves, Carlos Henggeler Antunes, and Pedro Carrasqueira</i>	
Stigmergy-Based Scheduling of Flexible Loads.	475
<i>Fredy H. Rios S., Lukas König, and Hartmut Schmeck</i>	
Electrical Load Pattern Shape Clustering Using Ant Colony Optimization . . .	491
<i>Fernando Lezama, Ansel Y. Rodríguez, Enrique Muñoz de Cote, and Luis Enrique Sucar</i>	
Optimization of Operation and Control Strategies for Battery Energy Storage Systems by Evolutionary Algorithms	507
<i>Jan Müller, Matthias März, Ingo Mauser, and Hartmut Schmeck</i>	
EvoGAMES	
Orthogonally Evolved AI to Improve Difficulty Adjustment in Video Games	525
<i>Arend Hintze, Randal S. Olson, and Joel Lehman</i>	
There Can Be only One: Evolving RTS Bots via Joust Selection	541
<i>A. Fernández-Ares, P. García-Sánchez, A.M. Mora, P.A. Castillo, and J.J. Merelo</i>	
Constrained Level Generation Through Grammar-Based Evolutionary Algorithms	558
<i>Jose M. Font, Roberto Izquierdo, Daniel Manrique, and Julian Togelius</i>	
Evolving Chess-like Games Using Relative Algorithm Performance Profiles . . .	574
<i>Jakub Kowalski and Marek Szykula</i>	
Online Evolution for Multi-action Adversarial Games	590
<i>Niels Justesen, Tobias Mahlmann, and Julian Togelius</i>	
The Story of Their Lives: Massive Procedural Generation of Heroes’ Journeys Using Evolved Agent-Based Models and Logical Reasoning	604
<i>Rubén H. García-Ortega, Pablo García-Sánchez, Juan J. Merelo, Aránzazu San-Ginés, and Ángel Fernández-Cabezas</i>	
Dangerousness Metric for Gene Regulated Car Driving	620
<i>Sylvain Cussat-Blanc, Jean Disset, and Stéphane Sanchez</i>	
Using Isovists to Evolve Terrains with Gameplay Elements	636
<i>Andrew Pech, Chiou-Peng Lam, Philip Hingston, and Martin Masek</i>	

A Spatially-Structured PCG Method for Content Diversity in a Physics-Based Simulation Game.	653
<i>Raúl Lara-Cabrera, Alejandro Gutierrez-Alcoba, and Antonio J. Fernández-Leiva</i>	

Design and Evaluation of an Extended Learning Classifier-Based StarCraft Micro AI	669
<i>Stefan Rudolph, Sebastian von Mammen, Johannes Jungbluth, and Jörg Hähner</i>	

EvoIASP

A Wrapper Feature Selection Approach to Classification with Missing Data . . .	685
<i>Cao Truong Tran, Mengjie Zhang, Peter Andreae, and Bing Xue</i>	

Bare-Bone Particle Swarm Optimisation for Simultaneously Discretising and Selecting Features for High-Dimensional Classification	701
<i>Binh Tran, Bing Xue, and Mengjie Zhang</i>	

Mutual Information Estimation for Filter Based Feature Selection Using Particle Swarm Optimization	719
<i>Hoai Bach Nguyen, Bing Xue, and Peter Andreae</i>	

Speaker Verification on Unbalanced Data with Genetic Programming	737
<i>Róisín Loughran, Alexandros Agapitos, Ahmed Kattan, Anthony Brabazon, and Michael O'Neill</i>	

Binary Tomography Reconstruction by Particle Aggregation.	754
<i>Mohammad Majid al-Rifaie and Tim Blackwell</i>	

Population Based Ant Colony Optimization for Reconstructing ECG Signals	770
<i>Yih-Chun Cheng, Tom Hartmann, Pei-Yun Tsai, and Martin Middendorf</i>	

EvoINDUSTRY

Can Evolutionary Algorithms Beat Dynamic Programming for Hybrid Car Control?.	789
<i>Tobias Rodemann and Ken Nishikawa</i>	

NSGA-II Based Auto-Calibration of Automatic Number Plate Recognition Camera for Vehicle Speed Measurement	803
<i>Patryk Filipiak, Bartłomiej Golenko, and Cezary Dolega</i>	

Environment-Model Based Testing with Differential Evolution in an Industrial Setting.	819
<i>Annamária Szenkovits, Noémi Gaskó, and Erwan Jahier</i>	
Workforce Scheduling in Inbound Customer Call Centres with a Case Study.	831
<i>Goran Molnar, Domagoj Jakobović, and Matija Pavelić</i>	
Author Index	847

Contents – Part II

EvoNUM

Local Fitness Meta-Models with Nearest Neighbor Regression	3
<i>Oliver Kramer</i>	
Validating the Grid Diversity Operator: An Infusion Technique for Diversity Maintenance in Population-Based Optimisation Algorithms.	11
<i>Ahmed Salah, Emma Hart, and Kevin Sim</i>	
Benchmarking Languages for Evolutionary Algorithms	27
<i>J.J. Merelo, Pedro Castillo, Israel Blancas, Gustavo Romero, Pablo García-Sánchez, Antonio Fernández-Ares, Víctor Rivas, and Mario García-Valdez</i>	
On the Closest Averaged Hausdorff Archive for a Circularly Convex Pareto Front.	42
<i>Günter Rudolph, Oliver Schütze, and Heike Trautmann</i>	
Evolving Smoothing Kernels for Global Optimization	56
<i>Paul Manns and Kay Hamacher</i>	

EvoPAR

Implementing Parallel Differential Evolution on Spark.	75
<i>Diego Teijeiro, Xoán C. Pardo, Patricia González, Julio R. Banga, and Ramón Doallo</i>	
ECJ+HADOOP: An Easy Way to Deploy Massive Runs of Evolutionary Algorithms.	91
<i>Francisco Chávez, Francisco Fernández, César Benavides, Daniel Lanza, Juan Villegas, Leonardo Trujillo, Gustavo Olague, and Graciela Román</i>	
Addressing High Dimensional Multi-objective Optimization Problems by Coevolutionary Islands with Overlapping Search Spaces	107
<i>Pablo García-Sánchez, Julio Ortega, Jesús González, Pedro A. Castillo, and Juan J. Merelo</i>	
Compilable Phenotypes: Speeding-Up the Evaluation of Glucose Models in Grammatical Evolution	118
<i>J. Manuel Colmenar, J. Ignacio Hidalgo, Juan Lanchares, Oscar Garnica, Jose-L. Risco, Iván Contreras, Almudena Sánchez, and J. Manuel Velasco</i>	

GPU Accelerated Molecular Docking Simulation with Genetic Algorithms. . .	134
<i>Serkan Altuntaş, Zeki Bozkus, and Basilio B. Fraguera</i>	

EvoRISK

Challenging Anti-virus Through Evolutionary Malware Obfuscation	149
<i>Marco Gaudesi, Andrea Marcelli, Ernesto Sanchez, Giovanni Squillero, and Alberto Tonda</i>	

EvoROBOT

Leveraging Online Racing and Population Cloning in Evolutionary Multirobot Systems	165
<i>Fernando Silva, Luís Correia, and Anders Lyhne Christensen</i>	
Multi-agent Behavior-Based Policy Transfer	181
<i>Sabre Didi and Geoff Nitschke</i>	
On-line Evolution of Foraging Behaviour in a Population of Real Robots . . .	198
<i>Jacqueline Heinerman, Alessandro Zonta, Evert Haasdijk, and A.E. Eiben</i>	
Hybrid Control for a Real Swarm Robotics System in an Intruder Detection Task	213
<i>Miguel Duarte, Jorge Gomes, Vasco Costa, Sancho Moura Oliveira, and Anders Lyhne Christensen</i>	

EvoSTOC

Direct Memory Schemes for Population-Based Incremental Learning in Cyclically Changing Environments	233
<i>Michalis Mavrovouniotis and Shengxiang Yang</i>	
Simheuristics for the Multiobjective Nondeterministic Firefighter Problem in a Time-Constrained Setting.	248
<i>Krzysztof Michalak and Joshua D. Knowles</i>	
Benchmarking Dynamic Three-Dimensional Bin Packing Problems Using Discrete-Event Simulation.	266
<i>Ran Wang, Trung Thanh Nguyen, Shayan Kavakeb, Zaili Yang, and Changhe Li</i>	
Genetic Programming Algorithms for Dynamic Environments.	280
<i>João Macedo, Ernesto Costa, and Lino Marques</i>	
A Memory-Based NSGA-II Algorithm for Dynamic Multi-objective Optimization Problems.	296
<i>Shaaban Sahmoud and Haluk Rahmi Topcuoglu</i>	

Hybrid Dynamic Resampling Algorithms for Evolutionary Multi-objective Optimization of Invariant-Noise Problems	311
<i>Florian Siegmund, Amos H.C. Ng, and Kalyanmoy Deb</i>	
Author Index	327